



FIRRHILL HIGH SCHOOL
Mathematics Department
S1/2 Homework Booklet



1	P7 Revision
2	Rounding and Estimation
3	Negative Numbers
4	Coordinates
5	Whole Number
6	Decimal Number
7	Angles
8	Angles
9	Fractions 1
10	Mixed Revision
11	Ratio
12	Percentages
13	Time, Distance, Speed
14	Time, Distance, Speed
15	Powers and Roots and Algebra
16	Mixed Revision
17	Mixed Revision
18	Equations
19	Measurement
20	Measurement
21	Patterns and Relationships
22	2D shapes and 3D objects
23	Transformations
24	Fractions 2
25	Money

S1 (M) Maths Homework 1

1) Evaluate,

a) $34 + 187$

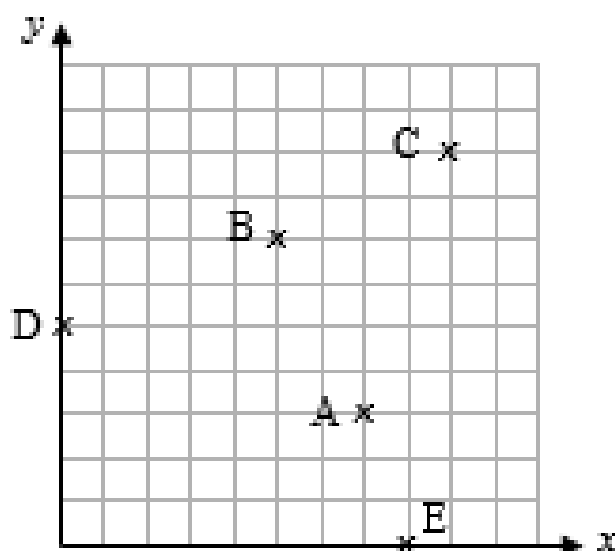
b) $8324 - 576$

c) 87×6

d) $735 \div 5$



2) Write down the coordinates of A, B, C, D and E.

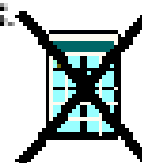


3) Draw your own coordinate grid and plot the following points.

a) $F(4,3)$

b) $G(0,7)$

c) $H(1,4)$



4)



a) Find the area of this rectangle.

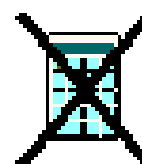
b) Find the perimeter of this rectangle.

5) How long are each of these time intervals?

a) 4:25 pm to 6:35 pm?

b) 7:20 am to 1:55 pm?

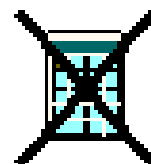
c) 1:35 pm to 7:05 pm?



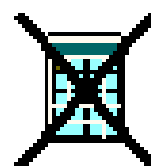
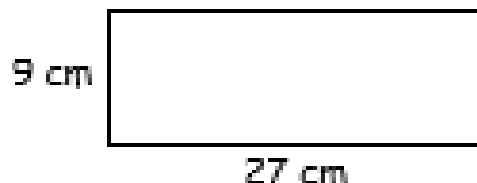
S1 (M) Maths Homework 2

- 1) Tom buys 2 bags of crisps at 45p each and a bottle of juice for £1.30.

How much change does he get from £5?



2)



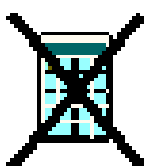
- a) Find the area of this rectangle.
b) Find the perimeter of this rectangle.

- 3) A group of 3 friends win £50 000 on the lottery. They split the money equally. How much do they each receive?



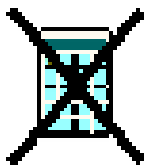
- 4) Round these numbers to the nearest 10.

a) 1324 b) 25 c) 423 d) 99



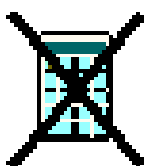
- 5) Round these numbers to one decimal place.

a) 189.1983 b) 1.983 c) 20.231 d) 27.98743



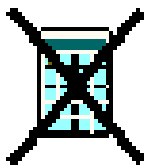
- 6) Use rounding to estimate the answers.

a) 19×39 b) 14×11 c) 21×399 d) 99×101



- 7) Estimate:

- a) the thickness of your jotter.
b) the length of your bedroom.
c) the height of the main school block.
d) the height of your Maths teacher.



REMEMBER YOUR UNITS

S1 (M) Maths Homework 4

1) Copy and complete the following.

a) $3 - 8$

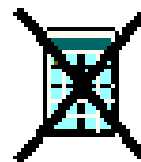
b) $-4 + 18$

c) $-27 + (-54)$

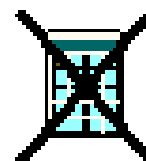
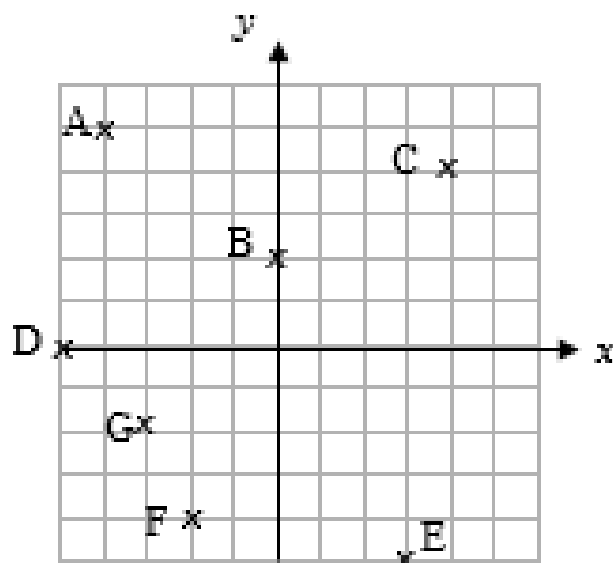
d) $3 + (-100)$

e) $-9 - (-2)$

f) $-42 - (-89)$



2) Write down the coordinates of A, B, C, D, E, F and G.

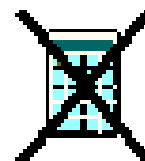


3) Draw your own coordinate grid and plot the following points.

a) $H(-8, 2)$

b) $I(4, -7)$

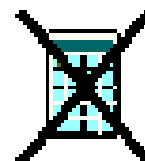
c) $J(-3, -5)$



4) Julie wants to draw a kite on a coordinate grid.

She plots the points $A(3, -3)$, $B(-5, 3)$ and $C(-5, 6)$.

Where would she plot the fourth point, D, to make a kite?



5) Copy and complete the following.

a) $-4 + 6$

b) $9 - 15$

c) $-3 + (-6)$

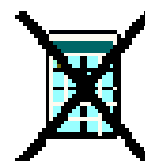
d) $12 - 19$

e) $8 - (-3)$

f) $-25 - (-17)$

g) $42 - (-8)$

h) $-13 + (-22)$



S1 (M) Maths Homework 5

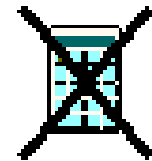
1) Calculate the following.
SHOW ALL WORKING.

- a) $784 + 65$ b) $8000 - 723$
c) 1347×8 d) $2223 \div 9$
e) $342 - 178$ f) $1799 \div 7$

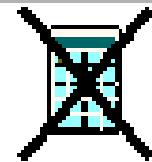


2) In a derby, there were 14 563 Hearts supporters and 12 432 Hibs supporters.

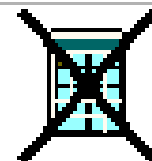
- a) How many supporters were there altogether?
b) How many more Hearts supporters than Hibs supporters were there?



3) How many seconds are there in 2 days?

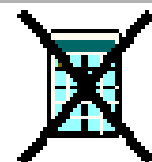


4) How many weeks are there in 343 days?



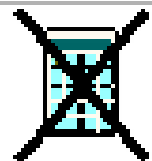
5) Write down the answers to the following.

- a) 56×10 b) 890×100
c) 430×1000 d) $8400 \div 10$
e) $540\,000 \div 100$ f) $131\,000\,000 \div 1000$



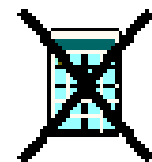
6) Calculate the following. SHOW ALL WORKING.

- a) 673×24 b) $936 \div 18$



7) What is this number?

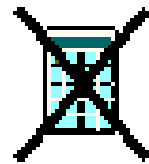
- When you divide it by 2, you get a remainder of 1.
- When you divide it by 3, you get a remainder of 1.
- When you divide it by 4, you get a remainder of 1.
- When you divide it by 6, you get a remainder of 1.
- When you divide it by 7, you get no remainder.



S1 (M) Maths Homework 6

1) Calculate the following.
SHOW ALL WORKING.

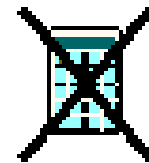
- a) $7.84 + 12.76$ b) $9 - 3.21$
c) 81.34×8 d) $8.26 \div 7$
e) $93.8 - 9.2$ f) $157.2 \div 3$



2) The six judges in a ice skating competition gave Sophie the following score.

4.8, 3.6, 4.9, 5.3, 5.7

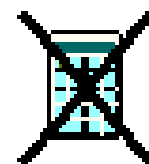
What was Sophie's total score?



3) A delivery truck weighs 9016 kg.
It delivers TV's which weigh 15.27 kg each.
What is the weight of a truck carrying 6 TV's?

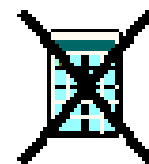


4) A group of 6 friends win £41237.16 on the football pools.
How much do they each receive?

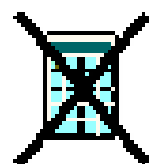


5) Write down the answers to the following.

- a) 5.23×10 b) 34.2×100
c) 8971.3×1000 d) $7.6 \div 10$
e) $45\,320 \div 100$ f) $78.43 \div 1000$

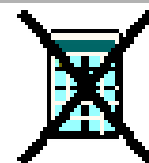


6) Jack buys three hamburgers costing £1.29 each,
four juices costing 89p each and two portions of
chips costing £1.10 each.
He hands over a £20 note.
How much change does he get?

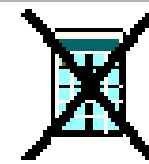


7) Calculate the following. SHOW ALL WORKING.

- a) 78.53×30 b) $3416 \div 80$

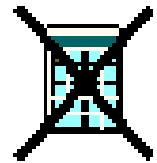


8) It costs £105 to have one year of Broadband.
How much does it cost per month?



S1 (M) Maths Homework 7

- 1) John buys 3 CDs at £8.99 each and a poster at £4.50.
How much change does he get from two £10 and one £20 note?



- 2) Name the type of angle

a)



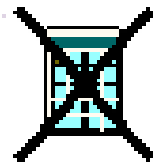
b)



c)



d)



- 3) Name the type of angle

a) 25°

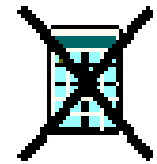
b) 90°

c) 250°

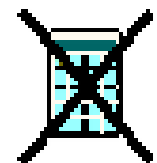
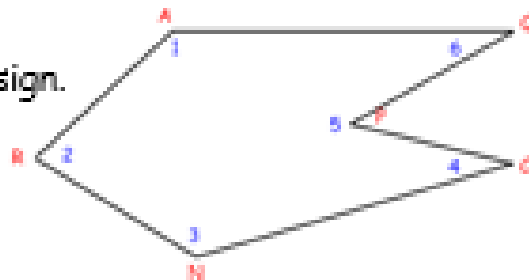
d) 180°

e) 120°

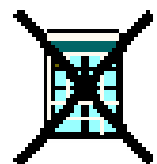
f) 2°



- 4) Name angles 1 - 5.
Don't forget angle sign.



- 5) A bowl of fruit measures 3.45kg when placed on a scales.
If the bowl weighs 0.78kg, what is the weight of the fruit?



- 6) Estimate, then measure these angles.

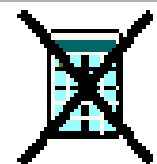
a)



b)



c)

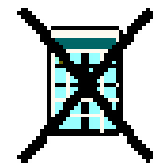


- 7) Find the next three terms in the sequences below.

a) 15, 10, 5

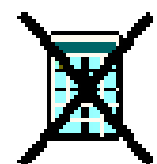
b) -1, -3, -5

c) 10, 3, -4



- 8) Find the entries in the third row of this table of temperatures ($^\circ\text{C}$).

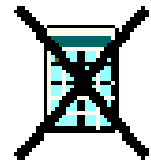
At 4pm	8	0	-2	2	-1	1
At 4am	3	-3	-3	-2	-11	-1
Fall ($^\circ\text{C}$)						



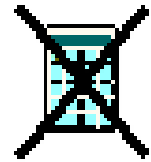
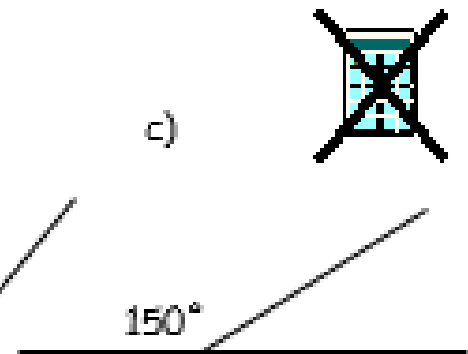
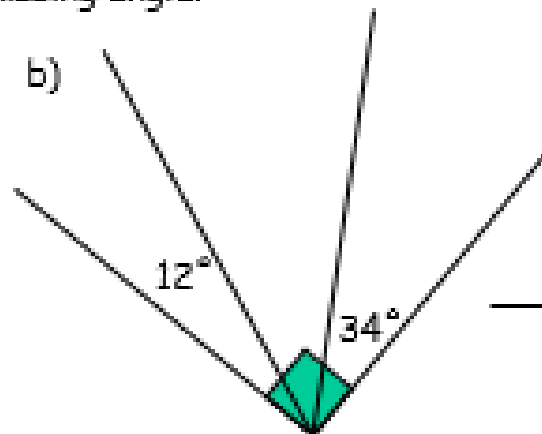
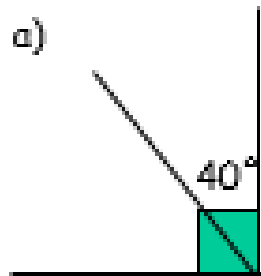
S1 (M) Maths Homework 8

1) Using estimation, sketch the following angles.

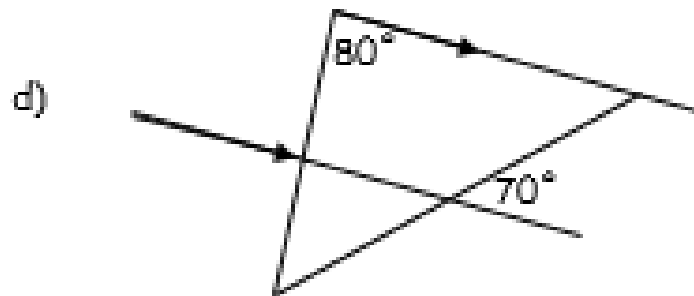
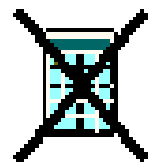
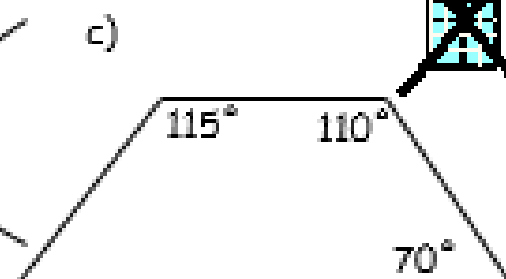
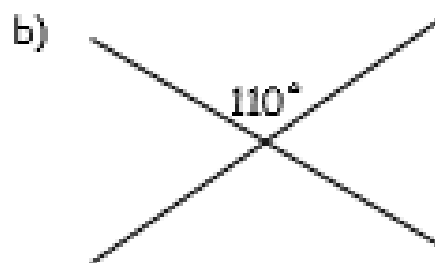
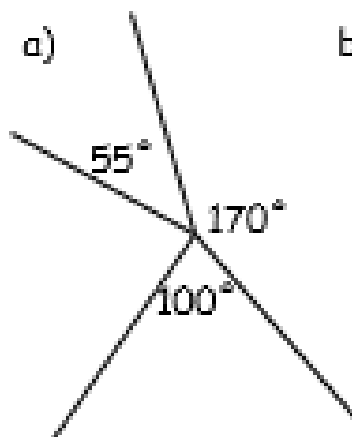
- a) 40° b) 80° c) 130° d) 300° e) 210° f) 350°



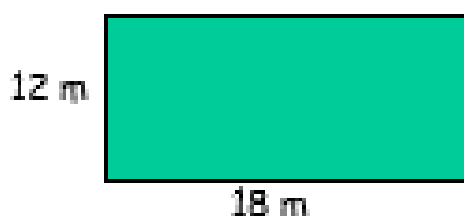
2) Calculate the missing angle.



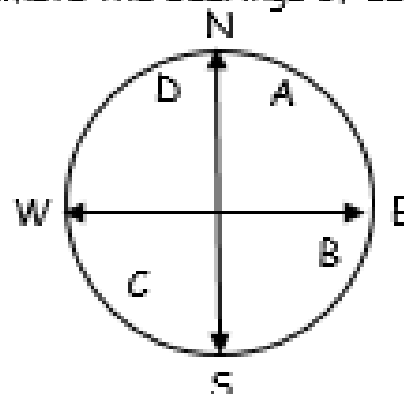
3) Copy each diagram and calculate all the missing angles.



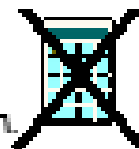
4) Make a scale drawing of this car park using the scale 1cm : 3m



5) Estimate the bearings of each letter.



S1 (M) Maths Homework 9



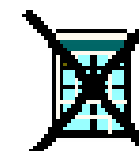
1) Draw 2 rectangles both with length 4 cm and breadth 3 cm.

a) Shade in $\frac{2}{3}$ of the first rectangle

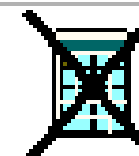
b) Shade in $\frac{3}{4}$ of the second rectangle

2) Find the equivalent fractions.

a) $\frac{1}{7} = \frac{?}{14}$ b) $\frac{2}{3} = \frac{?}{9}$ c) $\frac{3}{5} = \frac{15}{?}$

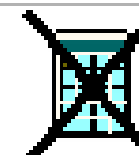


3) Find four equivalent fractions to $\frac{1}{7}$



4) Place these fractions in order, starting with the least.

a) $\frac{2}{5}$ $\frac{2}{3}$ $\frac{7}{10}$ $\frac{1}{2}$ b) $\frac{3}{4}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{2}{5}$



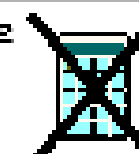
5) Simplify these fractions.

a) $\frac{2}{6}$ b) $\frac{4}{16}$ c) $\frac{4}{18}$ d) $\frac{8}{28}$



6) Write these improper fractions as mixed numbers and vice versa.

a) $\frac{8}{5}$ b) $\frac{9}{2}$ c) $3 \frac{4}{5}$ d) $7 \frac{5}{8}$



7) Find

a) $\frac{1}{2}$ of 564

b) $\frac{1}{7}$ of 2996



c) $\frac{5}{8}$ of 1176

d) $\frac{4}{9}$ of 3168

e) $\frac{3}{4}$ of 3284

f) $\frac{5}{6}$ of 1944

S1 (M) Maths Homework 10

1) Find the following

- a) 20% of 40 b) 30% of 50 c) 25% of 40
-

2)

- a) 30% read books, 20% watch TV, the rest listen to music.
What percentage listens to music?
- b) 20% read books, 60% watch TV, the rest listen to music.
What percentage listens to music?
-

3) Write the following in 24 hour time.

- a) 2:30 pm b) 6:50 am c) 5:40 pm d)
10:05 am
-

4) What is

- a) $\frac{1}{9}$ of 279 b) $\frac{2}{3}$ of 246 c) $\frac{4}{7}$ of 21
-

5) Evaluate

- a) £15.99 - £14.23 b) £34.45 - £31.83
-

6)

- a) I have £12 at the start of the day. By the end of the day
I have £2.50. How much have I spent?
- b) I have £10 at the start of the day. By the end of the day
I have £1.15. How much have I spent?
-

7) What number is one less than:

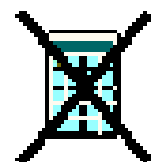
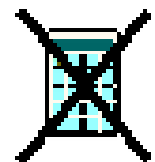
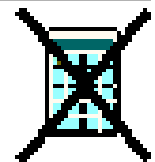
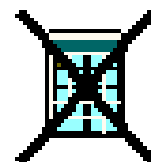
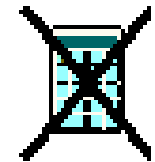
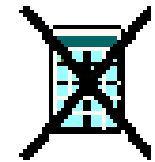
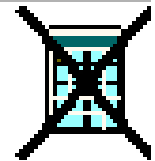
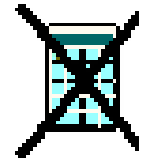
- a) 20 000? b) 45 000? c) 99 000?
-

8)

- a) $3.1 + 5.467$ b) $7.4 - 1.97$ c) $£4.64 \div 4$
d) $£75.65 \div 5$ e) $£18.27 \div 3$ f) $£32.64 \times 7$
-

9) Round the following to the nearest pound.

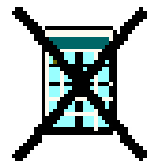
- a) £1354.64 b) £4687.32



S1 (M) Maths Homework 11

1) From the fruit below, write down the ratio of

- a) Apples : Bananas b) Pineapples : Apples



2) Simplify the following ratios as far as possible.

a) $16 : 4$

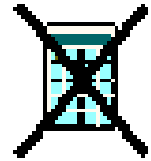
b) $12 : 27$

c) $15 : 30$

d) $40 : 50$

e) $60 : 80$

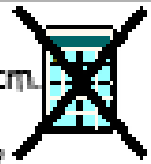
f) $112 : 88$



3) There are two square floor tiles.

Square 1 has side length 4cm, and Square 2 has side length 8cm.
Write down and simplify as far as possible:

- The ratio of
- a) Side length square 1 : Side length square 2
 - b) Perimeter square 1 : Perimeter square 2
 - c) Area square 1 : Area square 2



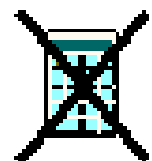
4) In a pick and mix bag the ratio of humbugs to lollies is 4 : 3.

- a) If there are 12 humbugs, how many lollies will there be?
- b) If there are 21 lollies, how many humbugs will there be?



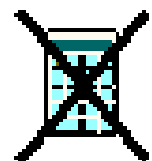
5) On a school trip the ratio of pupils to teachers is 16 : 1.

If there are 96 pupils on the trip, how many people went on the trip all together?



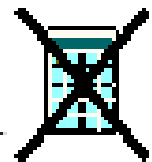
6) Share:

- a) £150 in the ratio 2 : 3
- b) 294 m in the ratio 4 : 3



7) To make tasty orange cordial, you need 35ml of cordial and 165 ml of water.

Write down the ratio of cordial to water in its simplest form.
Calculate the volumes of each needed to make 1 litre of juice.



S1 (M) Maths Homework 12

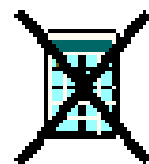
1) Change these percentages to decimals and fractions.
Simplify where possible.

- a) 89% b) 23%
c) 14% d) 46%



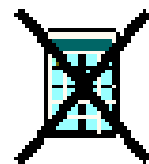
2) Change these fractions to percentages and decimals.

- a) $\frac{3}{50}$ b) $\frac{18}{25}$
c) $\frac{9}{10}$ d) $\frac{14}{20}$

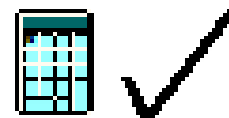


3) Evaluate.

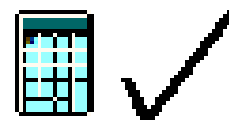
- a) 25% of £380 b) 50% of 1704 ml
c) 75% of \$348 d) $33\frac{1}{3}$ % of 288 kg
e) 90% of 345 litres f) 3% of 700 g



4) A bag of Maltesers usually contains 230 grams.
As a special offer, there is 35% extra free.
What does the bag of Maltesers weigh now?



5) A top has been reduced by 18% in a sale.
It used to cost £45.
What does it cost now?



6) Decide which of these is the better buy and calculate the cost.

SOFAS R US
£1200

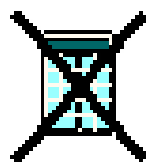


25% off!!!

FSD
£1200



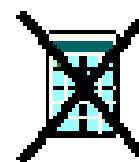
$\frac{1}{5}$ off!!!



S1 (M) Maths Homework 13

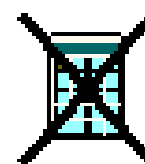
1) Round these numbers to one decimal place.

- a) 22.42 b) 1.982 c) 544.355 d) 111.111



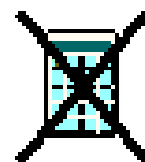
2) Evaluate

- a) $4 - 9$ b) $-17 - 8$
c) $-12 + 6$ d) $5 - (-9)$
e) $-10 - (-5)$ f) $-40 - 16$



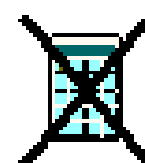
3) Put these units of time in order, starting with the shortest.

Hours, minutes, years, seconds, weeks, centuries,
millennia, months, milliseconds



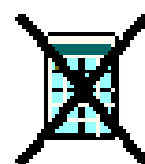
4) Change these 12 hr clock times to 24hr clock times

- a) 3pm b) 4.30am c) 11.20am
d) 12am e) 5.55pm f) 12.30pm

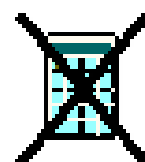


5) Change these 24hr clock times to 12hr clock times

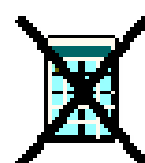
- a) 0800 b) 1740 c) 2120 d) 1305
e) 0145 f) 1200



6) John put a roast in the oven at 5.15pm and it was cooked
at 7.05pm.
How long did it take to cook?



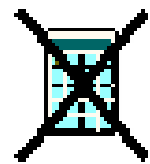
7) Jade leaves London at 10.30am and arrives in New York at
1820.
How long did her journey take



S1 (M) Maths Homework 14

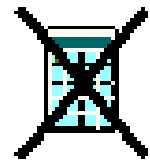
1) Change these percentages to decimals and fractions and simplify when possible

- a) 10% b) 25% c) 26% d) 75% e) 65% f) 36%



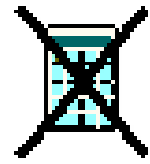
2) Copy and complete the table

3 hrs 30 mins		
	$1\frac{1}{3}$ hours	
2 hrs 40 mins		
		5.75 hrs
		4.33 hrs



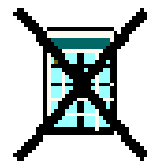
3) John drives at 50mph. How far will John travel in:

- a) 2 hours? b) 6 hours? c) 30 minutes? d) 3-5 hours?



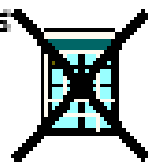
4) Find the time taken for each of the following journeys

- a) Distance - 200km Speed - 40km/hr
b) Distance - 20miles Speed - 5mph
c) Distance - 60km Speed - 40km/hr



5) Calculate the average speed for each of the following journeys

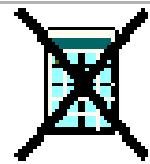
- a) Distance - 100km Time - 4 hours
b) Distance - 50 miles Time - 2.5 hours
c) Distance - 100metres Time - 10 seconds
d) Distance - 72km Time - 8 hours



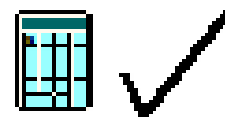
6) a) $6 - 13$ b) $-33 - 14$

c) $-17 + 23$ d) $6 - (-8)$

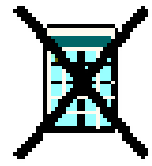
e) $-8 - (-4)$ f) $-67 + (-23)$



7) A bottle of juice usually contains 550 ml.
As a special offer, there is 28% extra free.
What does the bottle of juice hold now?



S1 (M) Maths Homework 15



1) Collect like terms.

a) $4x + 3y - 2x - 7y$

b) $4t - 7r + 5t + r + 6$

c) $6w^2 + 8w - 3w^2 - 10w$

d) $7p^2 + 3p - 4q + 8$

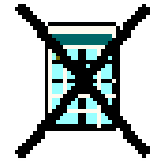
2) Evaluate.

a) 11^2

b) 4^3

c) 2^4

d) 3^3



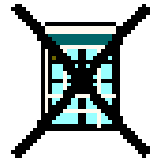
3) Evaluate.

a) $\sqrt{36}$

b) $\sqrt{121}$

c) $\sqrt{81}$

d) $\sqrt{169}$



4) Evaluate for when $a = -1$, $b = 2$, $c = -6$ and $d = 9$.

a) $3b + d$

d) $c - 4b$

b) $4d - c$

e) $20 - 3b$

c) $c - a$

f) $630 - 6d$

5) Shona ran 6.5 miles in 45 minutes.
What is Shona's average speed?



6) Evaluate.

a) 20% of £784

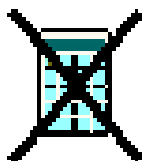
d) 75% of 5.36 kg

b) $33\frac{1}{3}$ % of 372 ml

e) 80% of 973 litres

c) $66\frac{2}{3}$ % of \$447

f) 9% of 112 g



7) Draw a coordinate grid and plot the following points.

a) A(-5,4)

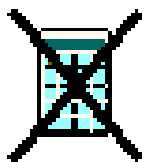
b) B(2,-5)

c) C(-4,-1)

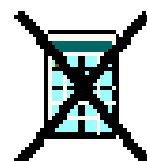
d) D(-2,0)

e) E(1,0)

f) F(0,-4)



S1 (M) Maths Homework 16



- 1) Six people share a lottery win of £195 000.
How much will each person receive?

- 2) Calculate the following. SHOW ALL WORKING.

- a) $3 \times 4 + 2$ b) $8 + 2 \times 3$
c) $10 + 8 \div 2$ d) $21 \div 3 - 6$
e) $10 - 3 + 4$ f) $4 \times 4 \div 2$

- 3) Put these in numerical order.

$\frac{3}{50}$ 7% $\frac{1}{20}$ 0.7 0.17 6.2%

- 4) Use the table to answer the following questions.

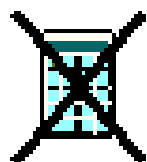
HOTEL SUN Dinner, Bed and Breakfast included in all prices	Costa Del Sol			
	7 nights		14 nights	
	Adult	Child	Adult	Child
June (18 th - 30 th)	£365	£210	£505	£300
July (1 st - 31 st)	£405	£255	£565	£315
Aug (1 st - 15 th)	£380	£195	£485	£290
Aug (16 th - 31 st)	£290	£160	£390	£215

Children: aged 15 and under

- a) How much does it cost for two adults arriving on August 18th for 7 nights?
- b) How much more does it cost an adult to stay at the hotel for 14 nights on the 18th July rather than the 18th of June?
- c) Mr and Mrs Jones, their son, David (aged 17) and their daughter Emily (aged 14) arrive at the hotel on the 2nd of August and stay for a fortnight. How much does it cost?

- 5) Copy the following and put brackets in the correct place.

- a) $12 - 4 + 2 = 10$ b) $8 + 3 \times 2 = 22$
c) $24 \div 8 \div 2 = 1.5$ d) $4 + 6 \div 2 = 7$



S1 (M) Maths Homework 17

- 1) Plot these points on a coordinate diagram by drawing an x-axis and y-axis from -5 to 5

a) A(4,3) b) B(-3,2) c) C(5, -1) d) D(-4,-3)



- 2) Evaluate:

a) $7 - 11$

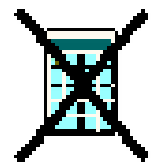
b) $-8 + 6$

c) $6 - (-4)$

d) $-22 - (-8)$

e) $-6 - 17$

f) $-100 - (-65)$



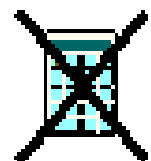
- 3) Evaluate.

a) 20% of \$750

b) 75% of 800m

c) 50% of 954miles

d) 6% of £800



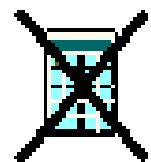
- 4) Change these fractions to percentages and decimals.

a) $\frac{6}{50}$

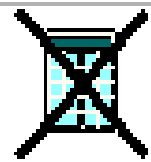
b) $\frac{11}{25}$

c) $\frac{4}{10}$

d) $\frac{13}{20}$



- 5) Jimmy leaves his house at 11 35 and arrives at his mates house at 13 15, how long did his journey take?

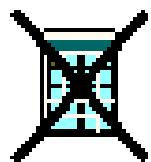


- 6) Fill in the missing value by using the speed-distance-time formulae

a) Speed = 40mph Time = 3hours Distance = ?

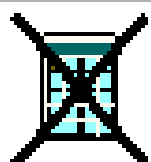
b) Speed = 120km/hr Time = ? Distance = 480km

c) Speed = ? Time = 7 hours Distance = 980miles



- 7) Write the following as hours and minutes

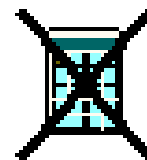
a) 0.5hours b) 2.75hours c) 6.1hours d) 3.33hours



S1 (M) Maths Homework 18

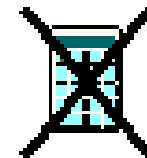
1) Solve for x .

a) $5x + 7 = 32$ b) $6x - 3 = 15$ c) $10 = 3x + 1$



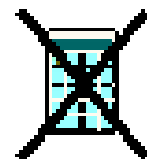
2) Solve.

a) $\frac{7e}{2} = 21$ b) $\frac{3b}{4} = 45$ c) $\frac{4r}{6} + 7 = 9$



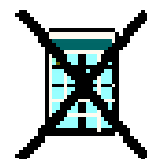
3) Solve the equations.

a) $3(3a + 4) = 21$ b) $2(2v - 7) = 7$ c) $3(6g + 4) = 39$



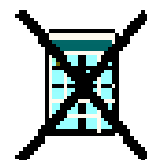
4) Solve the equations.

a) $14f - 8 + 24 - 6f = 36$ b) $7x + 6 - 5x + 2 = 11$



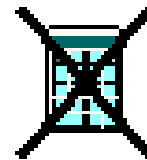
5) Solve for x .

a) $2(x + 2) + 3(x + 4) = 31$ b) $4(x + 2) + 2(x + 4) = 40$



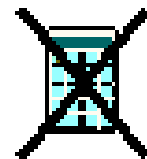
6) Solve the equations.

a) $3p - 6 = 14 + p$ b) $4(5a + 2) = 9(2a + 2)$

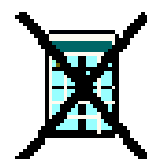


7) Evaluate.

a) 74×50 b) 29×900 c) $6704 \div 800$ d) $2940 \div 70$

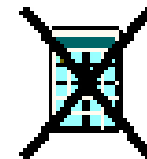


8) Sarah travels to work at an average speed of 44 mph.
Her work is 33 miles from her house.
How long does it take Sarah to travel to her work?



9) Rearrange these so they are in ascending order.

0.404 $\frac{1}{4}$ 41% 0.04 $\frac{4}{10}$



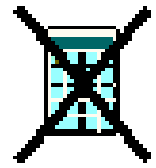
S1 (M) Maths Homework 19

- 1) Under the headings Length, Weight and Volume, write down the metric units from smallest to biggest.

Length

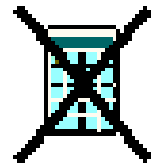
Weight

Volume



- 2) Which unit would you use to measure:

- a) the length of a classroom?
- b) the weight of an ipod?
- c) the volume of a can of juice?
- d) the width of your pencil?
- e) the weight of a ship?



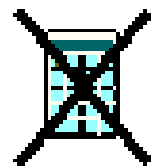
- 3) Change to metres

- a) 4 km b) 50 km c) 3.5 km d) 300 cm f) 40 cm

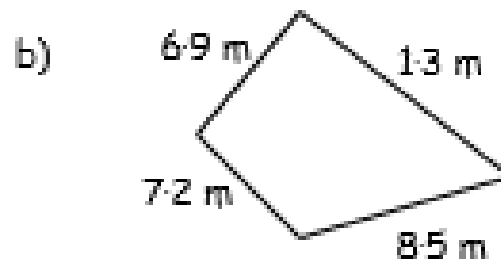
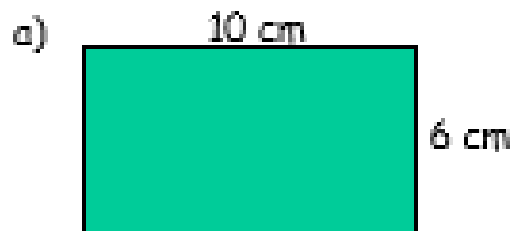


- 4) Change to kg

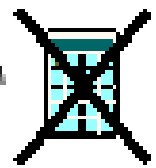
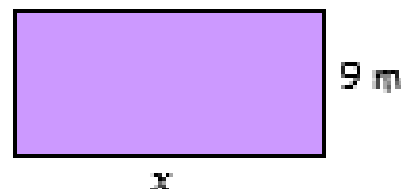
- a) 7000g b) 4tonnes c) 2500g d) 500g e) 4.5tonnes



- 5) Calculate the perimeter of the following shapes.

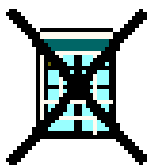


- 6) The perimeter of a rectangle is 56 m.
Calculate the length of x.



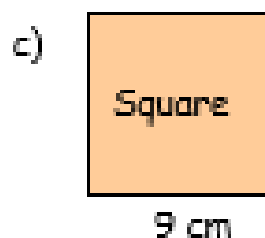
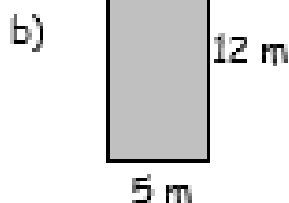
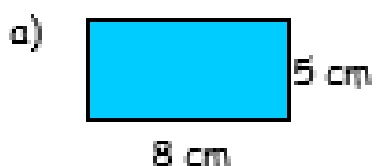
- 7) Calculate

- a) 50% of £60 b) 25% of £360 c) 10% of £355
d) 30% of £80 e) 45% of £220 f) 27% of £700

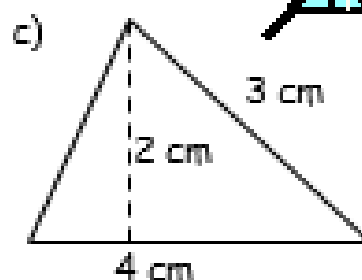
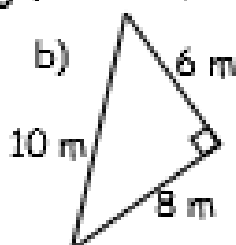
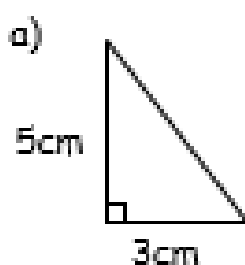


S1 (M) Maths Homework 20

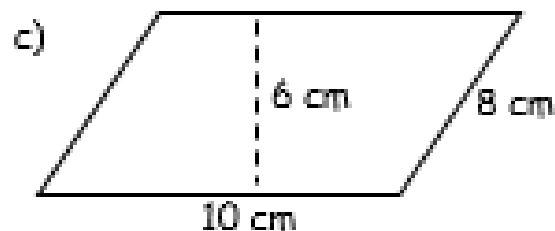
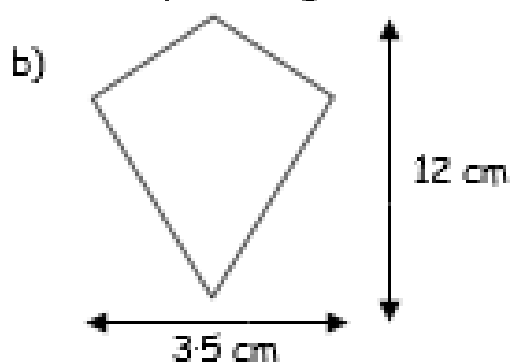
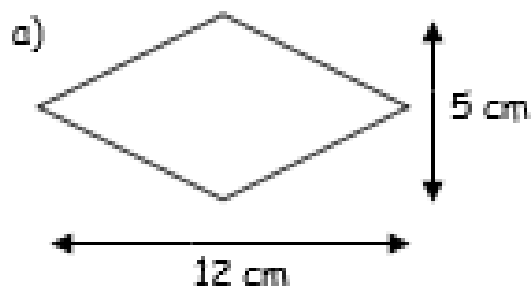
- 1) Find the area of these rectangles.
Show 3 lines of working for each.



- 2) Find the area of these triangles.
Show 3 lines of working for each.



- 3) Find the area of the rhombus, kite and parallelogram below.



4)

- a) Find the volume of a cuboid with length 50cm, width 30cm and height 25cm.

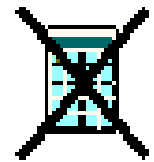
- b) A cuboid has a volume of 30cm^3 .
Its length is 5cm, its width is 2cm.
Find its height.

S1 (M) Maths Homework 21

1) Find the next four terms of these sequences.

a) 5, 7, 9, 11, b) 20, 16, 12, 8,

c) 1, 4, 9, 16, 25, d) 1, 1, 2, 3, 5, 8,

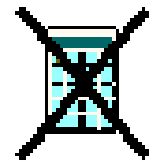


The sequence in Q1d has a special name. Can you find out what it is?

2) Draw a coordinate grid and plot the following points.

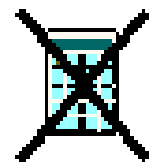
a) F(3,0) b) G(-5,8) c) H(4,-2)

d) I(0,-1) e) J(-2,-4) f) K(-3,-5)

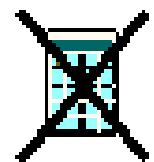
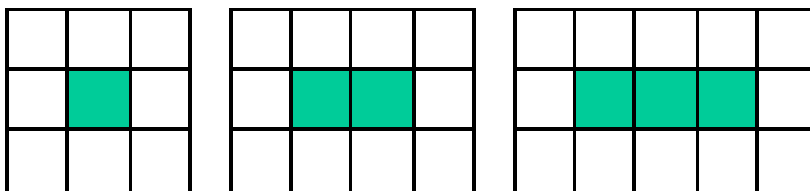


3) Create the first six terms of these sequences.

a) $4n + 2$ b) $n^2 + 6$ c) $3(n + 6)$



4) Here is an example of how tiles can be arranged in a garden.



a) Copy and complete this table.

Grey tiles	1	2	3	4	5	12
White tiles						

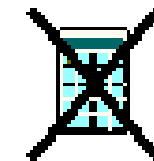
b) Construct a formula to help you calculate the number of white tiles needed when you know the number of grey.

c) You have 20 grey tiles. How many white tiles will you need?

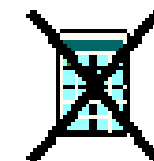
d) You have 36 white tiles. How many green tiles will you need?

5) Change these fractions to percentages and decimals.

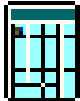

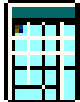

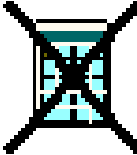
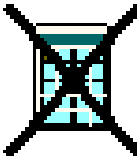
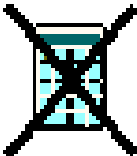
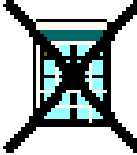
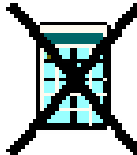
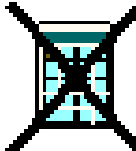
a) $\frac{8}{50}$ b) $\frac{18}{25}$ c) $\frac{7}{10}$ d) $\frac{17}{20}$



6) Find 12.5% of £2136 by only doing one sum.

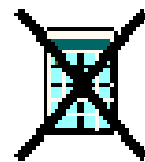
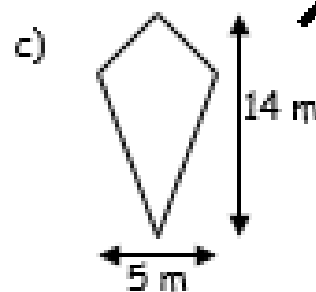
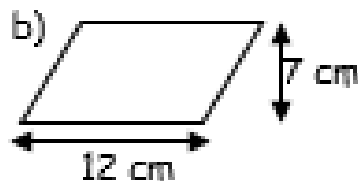
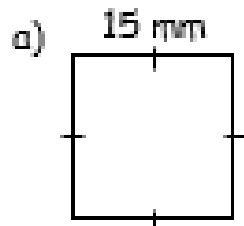


S1 (M) Maths Homework 22

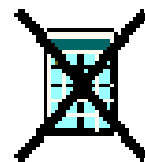
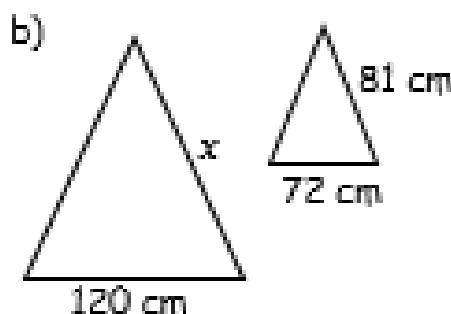
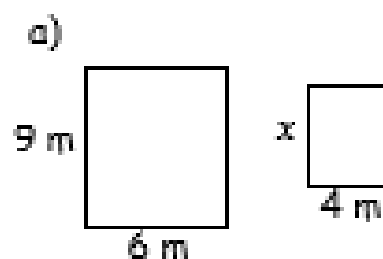
- 1) Alana needs to be at a business meeting 55 miles away at 2.15pm. She leaves her house at 12.54pm and drives at 45 mph. Does she make the business meeting?  
- 2) A bag has been reduced by 27% in a sale. It used to cost £89. What does it cost now?  
- 3) Name three different quadrilaterals. 
- 4) a) Name 3 prisms. b) For each prism state how many faces, edges and vertices it has. 
- 5) Draw the following triangles. a) Triangle ABC. AB is 12 cm long. The angle at A is 47° . The angle at B is 48° . b) Triangle DEF. DE is 8.5 cm long. The angle at D is 105° . EF is 12 cm long. 
- 6) Find a) $\frac{1}{3}$ of 1356 b) $\frac{1}{8}$ of 1872 c) $\frac{3}{4}$ of 2228 d) $\frac{5}{7}$ of 4375 
- 7) Use rounding to estimate the answers. a) 39×49 b) 28×19 c) 31×499 d) 79×1001 
- 8) Change these percentages to decimals and fractions. Simplify where possible. a) 78% b) 24% 

S1 (M) Maths Homework 23

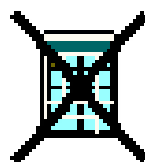
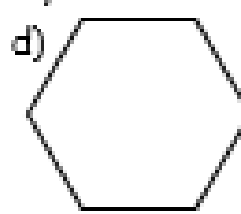
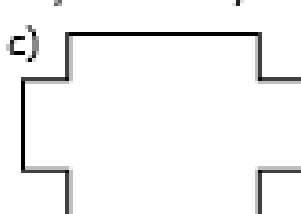
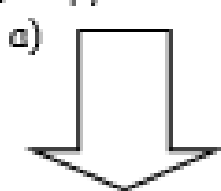
1) Find the area of each of the following shapes.



2) Find the scale factor and then calculate x .



3) Copy each shape and draw in any lines of symmetry.

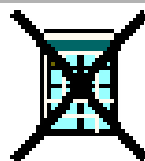


4) Create the first six terms of these sequences.

a) $7n - 3$

b) $3n^2 - 11$

c) $3n(n - 4)$



5)

a) A train takes 4 hours 30 minutes to travel 333 miles from Edinburgh to London.

What is the average speed of the train.

b) Trains can travel up to speeds of 110 miles per hour.

Fully explain your answer to part a).

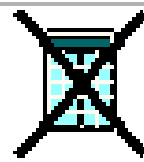


6)

a) Draw a coordinate grid from -5 to 5.

Plot the points $A(-1, 5)$, $B(-1, -2)$ and $C(-4, -5)$.

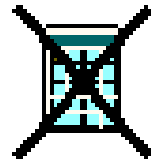
b) Reflect each point in the y axis.



S1 (M) Maths Homework 24

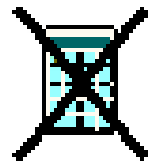
1) Write these top heavy fractions as mixed numbers.

a) $\frac{7}{2}$ b) $\frac{14}{3}$ c) $\frac{9}{4}$ d) $\frac{12}{4}$ e) $\frac{15}{6}$ f) $\frac{7}{3}$



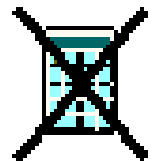
2) Write these mixed numbers as top heavy fractions.

a) $2\frac{1}{2}$ b) $1\frac{2}{3}$ c) $1\frac{1}{4}$ d) $5\frac{3}{4}$ e) $2\frac{5}{6}$ f) $1\frac{1}{3}$



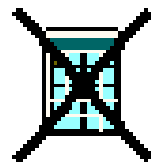
3)

a) $\frac{3}{4} + \frac{1}{3}$ b) $\frac{4}{5} - \frac{2}{3}$ c) $\frac{7}{9} - \frac{1}{3}$



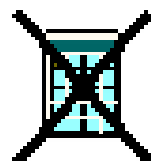
4)

a) $2\frac{3}{4} + 3\frac{1}{6}$ b) $6\frac{5}{6} + 2\frac{3}{8}$ c) $7\frac{2}{5} + 2\frac{1}{3}$



5)

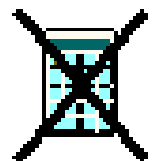
a) $5\frac{3}{4} - 1\frac{1}{3}$ b) $7\frac{5}{8} - 2\frac{1}{12}$ c) $6\frac{1}{4} - 2\frac{2}{3}$



6) A piece of rope was $6\frac{4}{5}$ metres long.

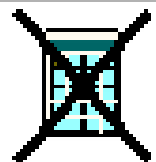
A piece measuring $3\frac{1}{4}$ metres was cut off.

What length of rope remained?



7) George ate $\frac{3}{5}$ of a pizza, Billy ate $\frac{4}{5}$ and Amanda ate $\frac{2}{5}$.

How much had they eaten all together?



8) Evaluate for when $a = -1$, $b = 2$, $c = -6$ and $d = 9$.

a) $3b^2 + d$

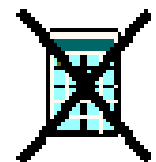
d) $a - 4b$

b) $9b - a$

e) $3(20 - 3b)$

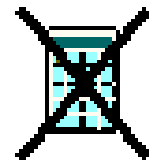
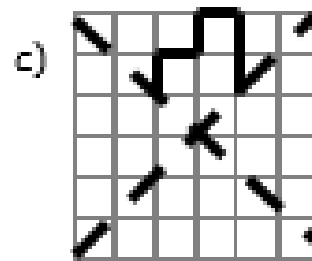
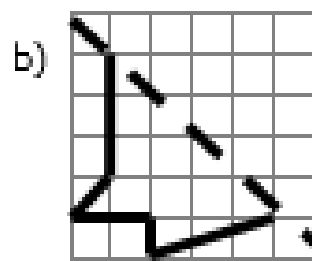
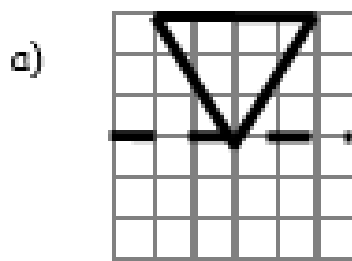
c) $3(2d - c)$

f) $d^2 - 6b$



S1 (M) Maths Homework 25

- 1) The broken line is a line of symmetry.
Copy and complete each shape.



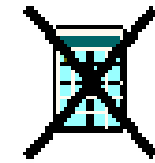
- 2) Evaluate

a) $97.4 + 7.32$

b) $23.2 - 1.46$

c) 7.9×6

d) $10 \div 8$



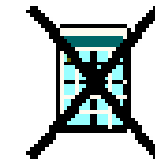
- 3) Calculate

a) 133×10

b) 143.45×1000

c) $44.3 \div 10$

d) $223.77 \div 100$



- 4) Eddie decided to sell ice cream cones at his school fair.
He decide he would try and sell 200 cones.
His shopping list is shown below.
He sold all 200 cones at 70p each.
How much profit did Eddie make?



SHOPPING LIST

Ice cream	(6 flavours at £3.50 each)
200 cones	(99p for a box of 8)
200 napkins	(£2.50 for a packet of 100)
Choc sprinkles	(3 tubs at £1.25 each)

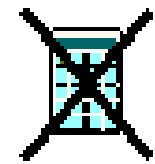
- 6) Evaluate:

a) 133×10

b) 143.45×1000

c) $44.3 \div 10$

d) $223.77 \div 100$



- 7)

a) Find three different prices for the same mobile phone.



b) Write three sentences for each price, explaining what is included.

c) Which option would you choose? Fully explain your answer.