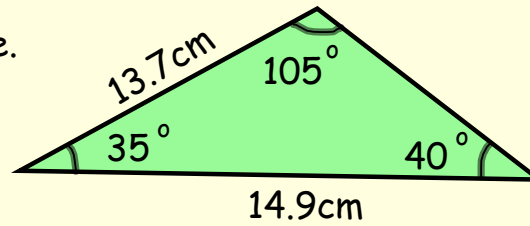


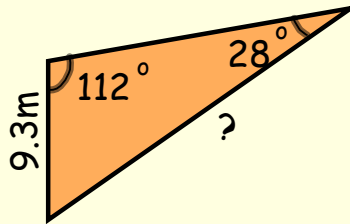


Starter

1) Find the area of the green triangle.



2) Find the missing length in the orange triangle.



Bearings

Today we are learning...

How to answer exam style questions that involve bearings.

I will know if I have been successful if...

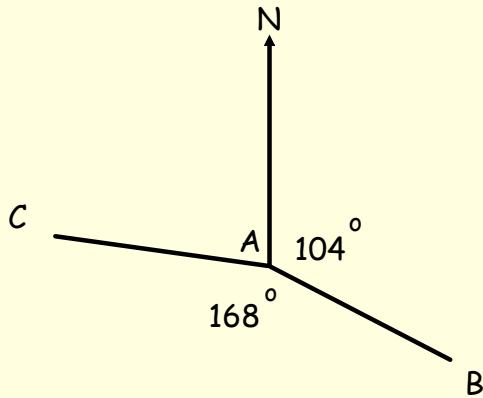
I can give the bearing of a given point from another point.

I can select the correct trigonometric rule to use.

I can apply the trigonometric rules to solve problems.



Bearings



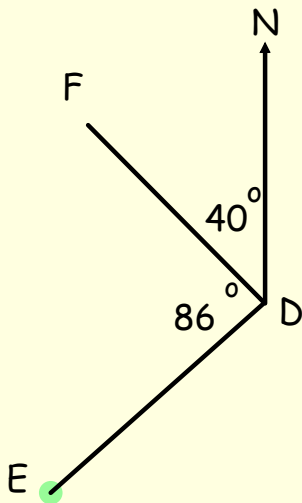
The bearing of...

Point B from point A = ___

Point C from point A = ___

Point C from point B = ___

Bearings



The bearing of...

Point F from point E = ___

Point E from point F = ___

Point E from point D = ___

Bearings

Application Booklet

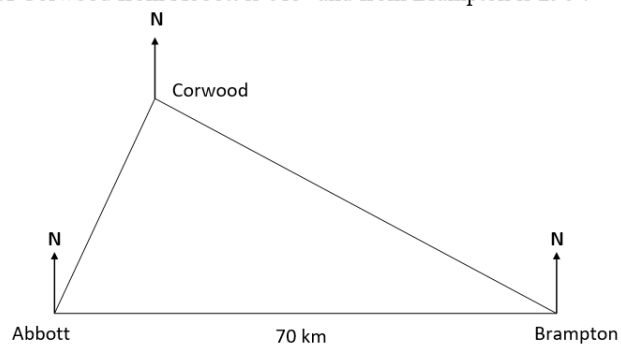
Pages 16 - 19

Check the answers after you complete a question.

Exam Style Question

Brampton is 70 kilometres due east of Abbott.

The bearing of Corwood from Abbott is 015° and from Brampton is 290° .



- (a) Make a neat copy of the diagram and fill in all three angles inside the triangle.
- (b) Calculate the distance between Corwood and Brampton, to the nearest kilometre.

Exam Style Question - Answer

(a) Abbott: 75° Brampton: 20° Corwood: 85° (b) 68km



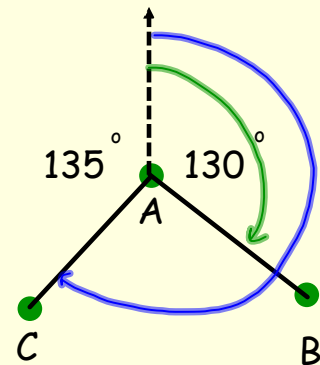
Starter

1) Find the bearing of point B from point A.

130°

2) Find the bearing of point C from Point A.

225°



3) Find the discriminant of $y = 3x^2 + 7x - 5$

$$\begin{aligned}
 & b^2 - 4ac \quad a = 3 \quad b = 7 \quad c = -5 \\
 & = 7^2 - (4 \times 3 \times -5) \\
 & = 49 + 60 = 109
 \end{aligned}$$

Vectors

Today we are learning...

What a vector is and how to draw one.

I will know if I have been successful if...

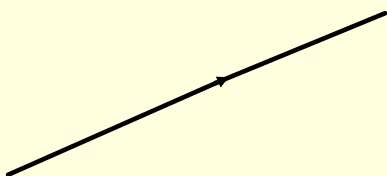
I understand what a vector is.

I can draw a vector.

I can calculate a vectors magnitude.

What is a Vector?

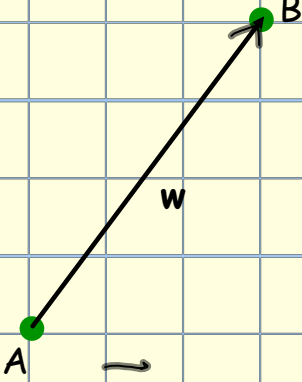
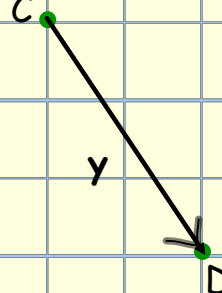
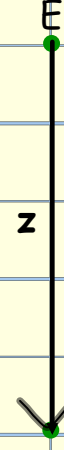
A vector is a line that has both direction and magnitude.



A vector is usually denoted by a bold or underlined letter such as; **a** or a.

Vector Notation

Label the following vectors...

a)  b)  c) 

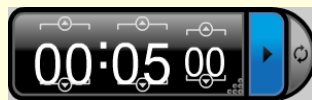
$\underline{w} = \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 3 \\ 4 \end{pmatrix}$

$\underline{y} = \begin{pmatrix} 2 \\ -3 \end{pmatrix}$

$\underline{z} = \begin{pmatrix} 0 \\ -5 \end{pmatrix}$

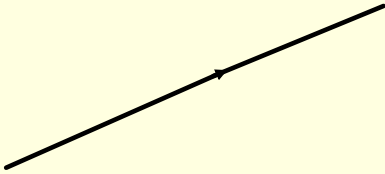
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Questions 1 & 2



What is a Vector?

A vector is a line that has both direction and **magnitude**.



A vector is usually denoted by a bold or underlined letter such as; **a** or a.

Magnitude of a Vector

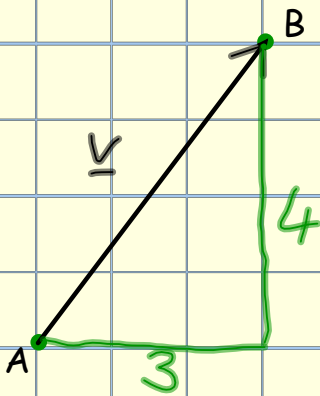
The magnitude of a vector describes its size - how big is it?

To write the magnitude of a vector **a** we would write **|a|**

a

Magnitude of a Vector

a) Calculate the magnitude of a vector \overrightarrow{AB}



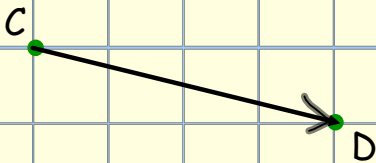
$$\overrightarrow{AB} = \begin{pmatrix} 3 \\ 4 \end{pmatrix}$$

$$|\overrightarrow{AB}| = \sqrt{3^2 + 4^2}$$

$$= 5$$

Magnitude of a Vector

a) Calculate the magnitude of a vector \overrightarrow{CD}



$$\overrightarrow{CD} = \begin{pmatrix} 4 \\ -1 \end{pmatrix}$$

$$|\overrightarrow{CD}| = \sqrt{4^2 + (-1)^2}$$

$$= \underline{\underline{4.12}}$$

Page 25

Questions 3 & 4



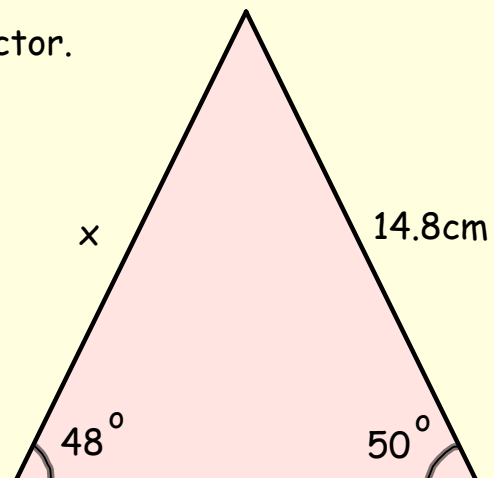
Starter



1) In your jotter draw the vector $\mathbf{a} = \begin{pmatrix} 4 \\ 5 \end{pmatrix}$

2) Calculate the magnitude of the vector.

3) Calculate the missing length x .



Adding and Subtracting Vectors

Today we are learning...

How to add and subtract vectors.

I will know if I have been successful if...

I can add vectors.

I can subtract vectors.

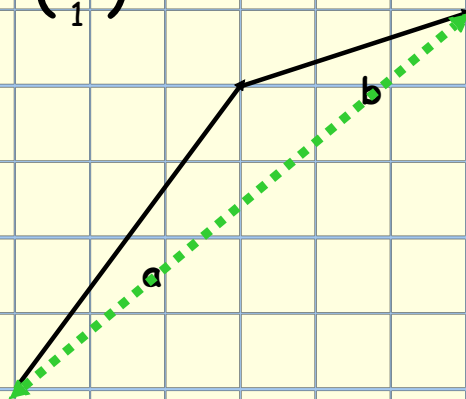
I can check my answer visually by drawing the vectors.



Example 1

Let $\mathbf{a} = \begin{pmatrix} 3 \\ 4 \end{pmatrix}$ and $\mathbf{b} = \begin{pmatrix} 3 \\ 1 \end{pmatrix}$

Calculate $\mathbf{a} + \mathbf{b}$

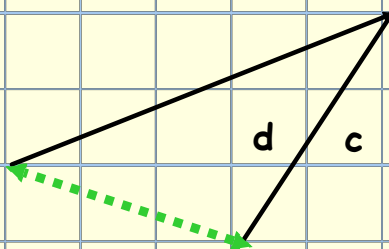


Let's check our answer...

Example 2

Let $\mathbf{c} = \begin{pmatrix} 2 \\ 3 \end{pmatrix}$ and $\mathbf{d} = \begin{pmatrix} 5 \\ 2 \end{pmatrix}$

Calculate $\mathbf{c} - \mathbf{d}$



Let's check our answer...

Applications Booklet

1) Addition

Pages 26 - 28

Questions 2a, 2c, 2e, 2g, 3, 5ii

2) Subtraction

Pages 29-31

Questions 2a, 2c, 2e, 2g, 3ii, 5.

Adding and Subtracting Vectors

Today we are learning...

How to add and subtract vectors.

I will know if I have been successful if...

I can add vectors.

I can subtract vectors.

I can check my answer visually by drawing the vectors.

