

Revision B F3 (Topics 3-6) [46]

1.

Solve the equations

(a) $4v - 1 = 9$

(2)

(b) $3w + 4 = 19 - 2w$

(3)

(c) $\frac{x}{5} - 2 = 11$

(2)

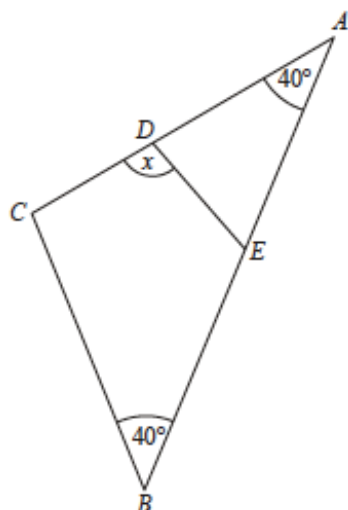
(d) $4(y + 3) = 9(y - 2)$

(3)

(Total 10 marks)

2.

ABC is an isosceles triangle. $BCDE$ is a kite.



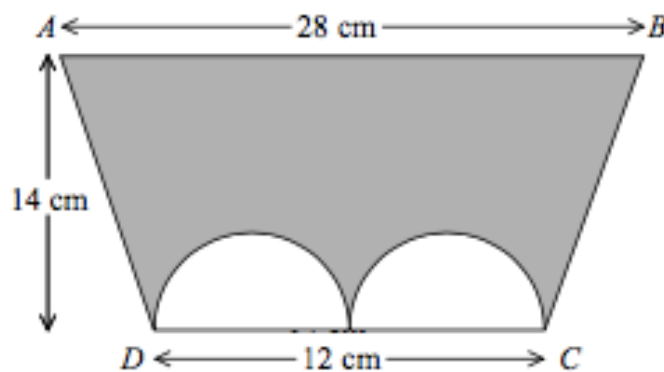
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Work out the value of x .

(Total 3 marks)

3.

The diagram shows a trapezium $ABCD$ and two identical semicircles.



The centre of each semicircle is on DC .

Work out the area of the shaded region.

Give your answer correct to 3 significant figures.

(Total 4 marks)

4.

500 people voted in an election.

The table shows the four candidates and the votes received by two of them.

Allgood	Betterdon	Carewell	Didright
155	105		

(a) What percentage of the votes did Allgood receive? (2)

(b) Carewell received twice as many votes as Didright. How many votes did Carewell receive? (3)

(Total 5 marks)

5.

Find the largest integer value of x that satisfies the inequality $4(2x + 3) < 42$

(Total 3 marks)

6.

(a) Rationalise and simplify $\frac{1}{\sqrt{8}}$ (2)

(b) By simplifying $\sqrt{12} + \sqrt{108}$,

write $\frac{\sqrt{12} + \sqrt{108}}{\sqrt{8}}$

in the form $a\sqrt{b}$ where a and b are integers.

(3)
(Total 5 marks)

7.

Julie has a bag containing x blue marbles and y red marbles.

The ratio of blue marbles to red marbles is 2:3

She adds z blue marbles.

The ratio of blue marbles to red marbles is now 2:1

What is the ratio between x and z ?

(Total 3 marks)

8.

A circular table top has radius 70 cm.

(a) Calculate the area of the table top in cm^2 , giving your answer as a multiple of π .

(b) The volume of the table top is $17\,150\pi \text{ cm}^3$.

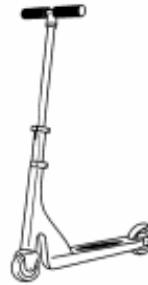
Calculate the thickness of the table top.

(Total 4 marks)

9.

A cycle shop, Wonderwheels, is selling micro-scooters at a discount of 30%.

<p>Wonderwheels</p> <p><i>Bargain of the week</i></p> <p>MICRO-SCOOTER</p> <p>Our Price <i>Only</i> £59.50</p> <p>This is a 30% discount!</p>
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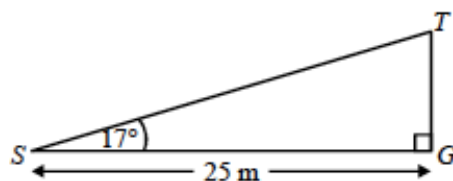
How much is the discount?

(Total 3 marks)

10.

- (a) Sadhia stands 25 m from the base of a tree.

The angle of elevation of the top of the tree is 17° .

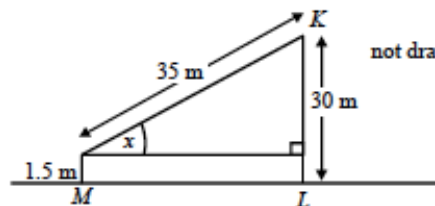


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Calculate the height of the tree, TG .

(3)

- (b) Max is holding the string of a kite which is flying 30 metres above the ground. His height is 1.5 metres. The string is straight and its length is 35 metres.



not drawn accurately

Calculate the angle x between the string and the ground.

(3)

(Total 6 marks)