

YOUR NAME : _____

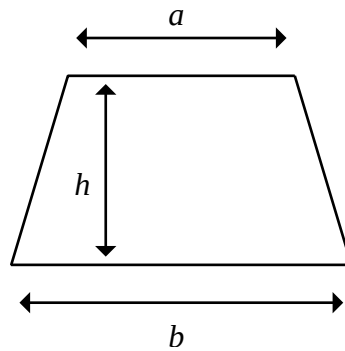
Summer Examinations Revision 2024

Exams Start Monday 10th June 2024

Lesson 11

11.1 The Area Of A Trapezium

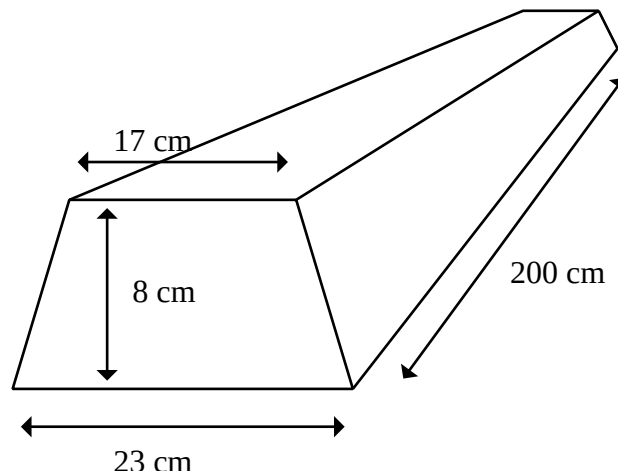
In exams the formula for the area of a trapezium is given.



$$\text{Area of trapezium} = \frac{1}{2} (a + b) h$$

Example

A solid concrete “speed bump” is in the shape of a trapezium based prism. What is the volume of the concrete used ?



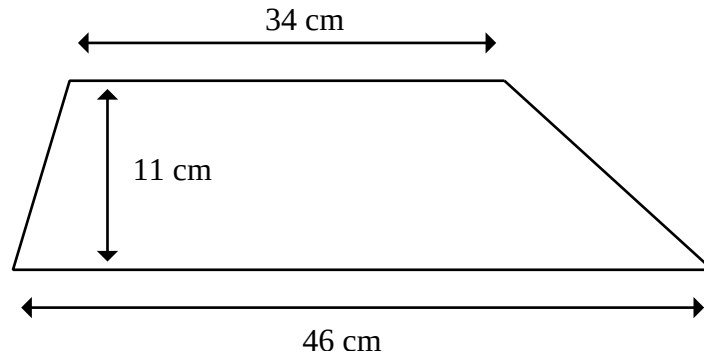
[4 marks]

11.2 Exercise

Marks Available : 68

Question 1

Work out the area of the following trapezium;



[3 marks]

Question 2

Expand the brackets

(i) $(x + 7)(x - 5)$

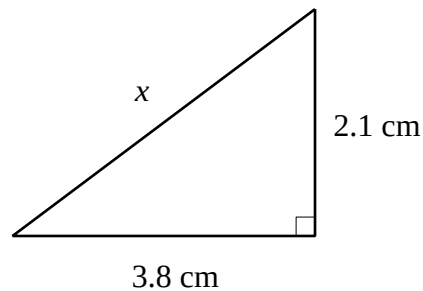
[3 marks]

(ii) $(2x + 3)^2$

[3 marks]

Question 3

Use the theorem of Pythagoras to find the length of the side marked x
Give your answer correct to one decimal place



[3 marks]

Question 4

(i) Increase £60 by 10%

(ii) Decrease £80 by 75%

(iii) In a Chemistry test, Tony gets 36 out of 40 questions correct.
What is his score as a percentage ?

HINT : It may help to think about the 4 out of 40 he got wrong

(iv) Increase £120 by 20%

(v) Decrease £500 by 3%

[2 marks each = 10 marks]

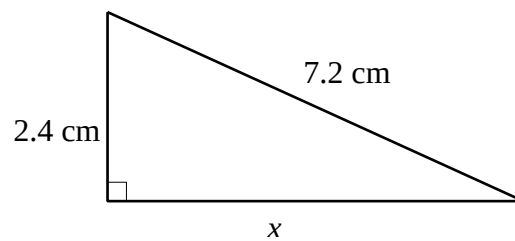
Question 5

Solve the following simultaneous equations;

$$3x + 5y = 2$$

$$6x - 5y = 34$$

[3 marks]

Question 6

Use the theorem of Pythagoras to find the length of the side marked x
Give your answer correct to one decimal place

[3 marks]

Question 7

Start with 3, and keep adding 4.

- (i) Write down the first ten terms in the sequence.

 3 , , , , ,
 , , , , ,

[2 marks]

- (ii) Will the number 1008 eventually be in this sequence ?
Give a reason for your answer.

[2 marks]

Question 8

Start with -5 , and keep adding 2.

- (i) Write down the first ten terms in the sequence.

 -5 , , , , ,
 , , , , ,

[2 marks]

- (ii) Will the number 1007 eventually be in this sequence ?
Give a reason for your answer.

[2 marks]

Question 9

Start with 19, and keep subtracting 3.

- (i) Write down the first ten terms in the sequence.

 , , , , ,
 , , , , ,

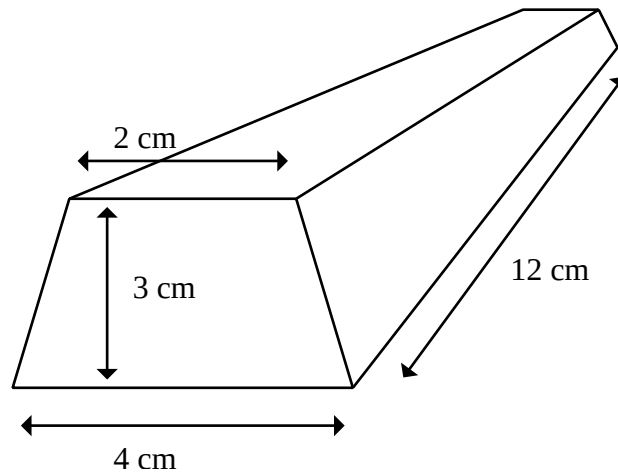
[2 marks]

- (ii) Will the number 203 eventually be in this sequence ?
Give a reason for your answer

[2 marks]

Question 10

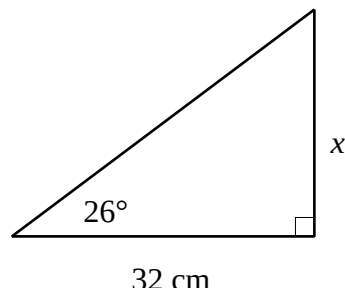
A solid chocolate “Yorky Bar” is in the shape of a trapezium based prism. What is the volume of the chocolate used ?



[4 marks]

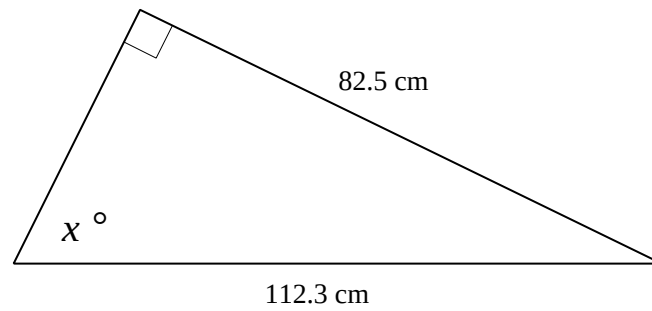
Question 11

Using SOH CAH TOA, find the length of the side marked x



[4 marks]

Question 12



Determine the angle marked x°

[4 marks]

Question 13

Factorise

(i) $x^2 + 8x + 15$

[4 marks]

(ii) $x^2 + x - 12$

[4 marks]

Question 14

$$2^0 = 1$$

$$2^1 + 2^0 = 3$$

$$2^2 + 2^1 + 2^0 = 7$$

$$2^3 + 2^2 + 2^1 + 2^0 =$$

- (a) Complete the fourth line of the above number pile.

[1 mark]

- (b) Add three more lines to your number pile.

[3 marks]

- (c) What will the line that begins $2^{29} + 2^{28} + \dots$ equal ?

[2 marks]

Question 15

Calculate the area of a circle of radius 20 cm.

[2 marks]