Name: _____

BennettMaths AQA 2F – Part 3

13 40 is increased by 15%

64 is decreased by 25%

Which answer is bigger?

Show how you decide.

[4 marks]

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____

Turn over for the next question

6

14 Factorise $14x + 21y$

[1 mark]

Answer _____

15 Write down all the integers that satisfy the inequality

$$-1 \leqslant x < 4$$

[2 marks]

Answer _____

16 A linear sequence starts

7   12   17   22

Work out an expression for the nth term of the sequence.

[2 marks]

Answer _____

17 Emily saves 2p, 5p and 10p coins.

She has

- 35 10p coins
- 9 times as many 2p coins as **10p coins**
- £14.30 in total.

Work out   total **value** of 2p coins : total **value** of 5p coins
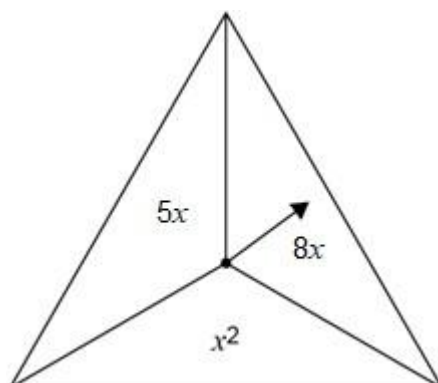
Give your answer in its simplest form.

[4 marks]

Answer _____ : _____

9

Turn over ▶

18 In a game,

- an ordinary fair six-sided dice is rolled
- the fair spinner shown is spun.

The score is the dice number **substituted** into the spinner expression.

18 (a) Complete the table to show all of the possible scores.

[2 marks]

	1	2	3	4	5	6
$5x$						30
$8x$		16				
x^2				16		

18 (b)   A player wins the game if their score is 30 or more.

Work out the probability that they win the game.

[1 mark]

_____

_____

_____

Answer _____

18 (c)   The game is played 756 times.

Estimate the number of games that are won.

[2 marks]

_____

_____

_____

Answer _____

Turn over for the next question

5

19 (a) Part of a regular polygon is shown.

Not drawn accurately

Assume that the polygon is a hexagon.

Work out the size of angle x.

[2 marks]

_____

_____

_____

Answer _____ °

19 (b) In fact, the polygon has **fewer** sides than a hexagon.

What does this mean about the size of angle x ?

Tick **one** box.

[1 mark]

☐ It is more than the answer to part (a)

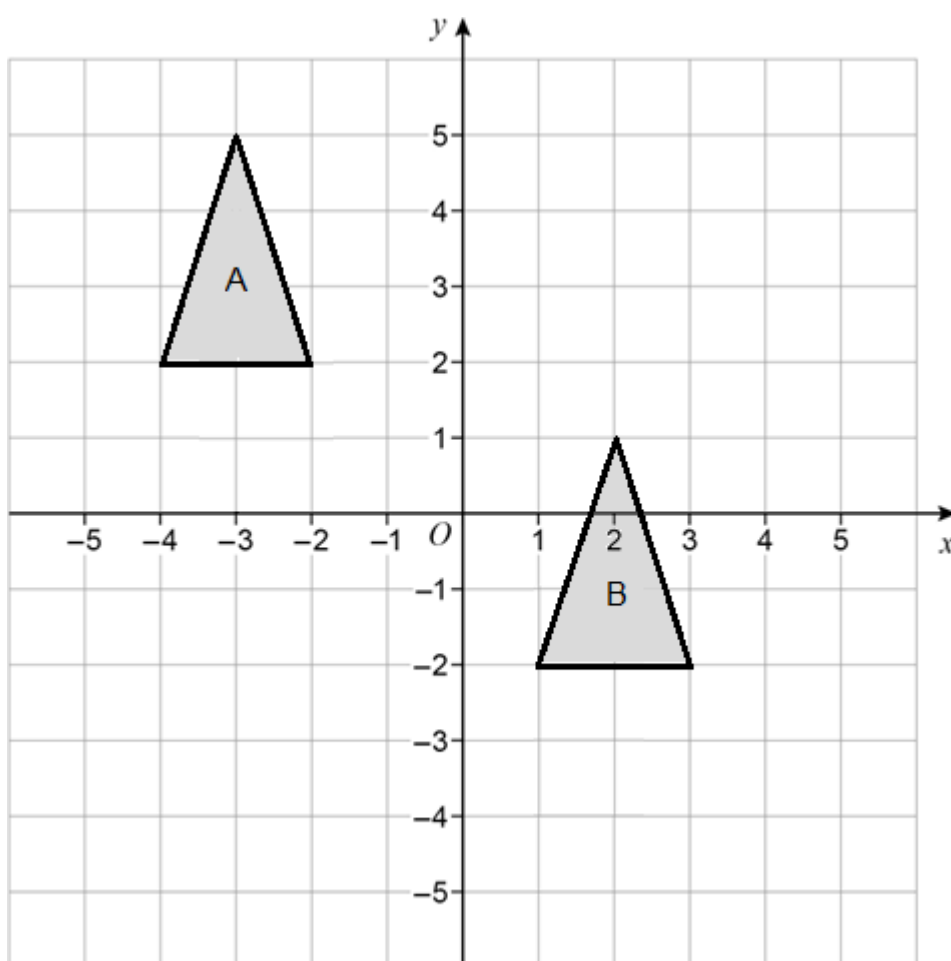☐ It is the same as the answer to part (a)

☐ It is less than the answer to part (a)

☐ It could be any of the above

20 Write down the translation vector that maps shape A onto shape B.
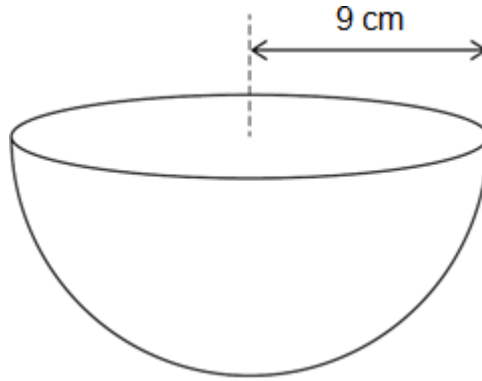
[2 marks]

Answer _____

Turn over for the next question

Turn over ▶

21

Volume of a sphere $= \dfrac{4}{3}\pi r^3$

A bowl is a hemisphere with radius 9 cm

9 cm

Water is poured into the bowl

at a rate of 185 cm^3 per second

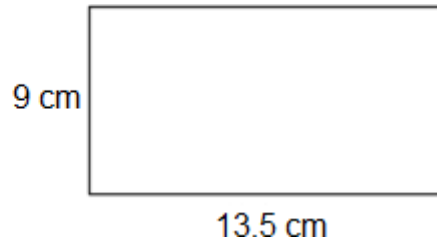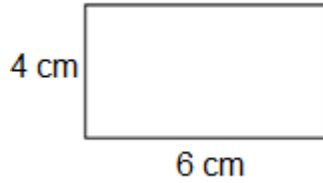for 7 seconds.

Does the water fill **more than** 80% of the bowl?

You **must** show your working.

[4 marks]

22 Show that these two rectangles are similar.

[2 marks]

Not drawn accurately

_____

_____

_____

23 A factory packs x boxes of plasters per hour.

Each box contains 100 plasters.

Show that the factory packs $\dfrac{5x}{3}$ plasters per minute.

[2 marks]

_____

_____

_____

_____

END OF QUESTIONS