



Mathematics Foundation Tier

Non-calculator Paper: June 2010 Pilot 2nd half

Name:

Initial reflection:

Assessor:

Feedback:

Question	Maximum Mark	Mark Awarded
10	3	
11	3	
12	4	
13	6	
14	6	
15	2	
16	4	
17	7	
18	4	
19	2	
20	5	
21	4	
TOTAL MARK		

Response:

10. A cylinder is labelled **P**.
 A pentagon is labelled **Q**.
 A triangular prism is labelled **R**.
 A cuboid is labelled **S**.

Complete the following table.

Property of the shape	Label on shape
It is not a 3D shape	
It has 8 vertices	
It has 2 circular faces	
It has exactly 3 rectangular faces	

[3]

11. Use the fact that $15.9 \times 230.2 = 3660.18$ to write down the answers to the following.

(a) $1.59 \times 230.2 =$

[1]

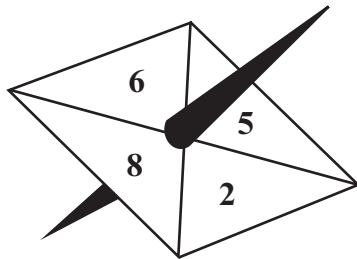
(b) $159 \times 23.02 =$

[1]

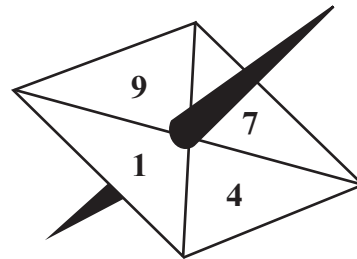
(c) $3660.18 \div 2302 =$

[1]

12. Spinner A has four equal sections numbered 2, 5, 6 and 8. Spinner B has four equal sections numbered 1, 4, 7 and 9. Both spinners are spun and the **difference** of the two numbers obtained is the score.



Spinner A



Spinner B

- (a) Complete the following table to show all the possible scores.

Spinner B	9	7
	7	5
	4	2	1	2	4
	1	1	4	5	7
		2	5	6	8
		Spinner A			

[2]

- (b) Find the probability that the score is greater than 4.

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[2]

13. (a) Solve

(i) $\frac{x}{4} = 8$,

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(ii) $6x - 7 = 11$.

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[3]

(b) Use the formula $G = 3H + 4K$ to find the value of H , when $K = 2$ and $G = 35$.

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[3]

14. (a) Find the value of $3^2 \times 4^2$.

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- (b) Calculate $\frac{5}{6} - \frac{1}{3}$.

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- (c) Express $\frac{3}{8}$ as a percentage.

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15. The diagram shows 2 identical large square tiles and 3 identical small square tiles.

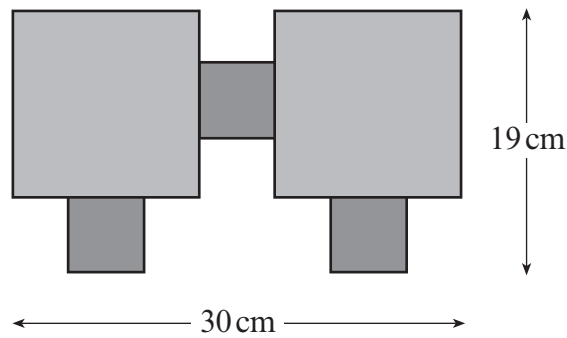


Diagram not drawn to scale.

Find the length of each of the small square tiles.

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[2]

16. (a) Three bags each contain a large number of cards.
The cards in the first bag are all numbered 1.
The cards in the second bag are all numbered 2.
The cards in the third bag are all numbered 4.



- (i) Six cards are selected from the bags.
The sum of the numbers on the cards selected from the bags is 20.
What are the six numbers on the cards selected?

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- (ii) Explain why it is not possible to select four cards from the bags to give a sum of 20.

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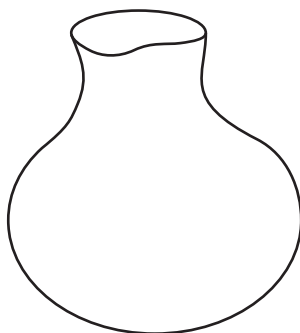
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[2]

- (b) All the cards from the three small bags are put together in one large bag.



There are 95 cards in the bag.
Twenty cards are numbered 2.
The probability of selecting a card numbered 4 from the bag is twice the probability of selecting a card numbered 2.
How many of the cards are numbered 1?

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[2]

17. Suzanne is considering buying a 12 month contract for a mobile phone. She usually talks for 130 minutes and sends 280 texts each month. Here are the details of the two options she is considering. Both options offer the same free phone with a 12 month contract.

<u>Option “ForeverText”</u>	<u>Option “Talktime”</u>
Every month for 12 months, inclusive of VAT: Phone calls 10p per minute All texts FREE	Every month for 12 months: 250 minutes free 400 free texts All for £12 per month + 17½% VAT

- (a) Find the better option for Suzanne.
How much cheaper is this option each month?

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- (b) Suzanne’s sister Joanna usually talks for about 220 minutes per month and does not send any texts.
Explain why “Talktime” is the better option for Joanna.

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[2]

18. Look at the grid.
The total of each column is shown under the grid.

a	b	c	a
a	c	c	b
b	c	c	c
b	c	c	d
10	26	32	0

Find the values of a , b , c and d .

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$a =$ $b =$ $c =$ $d =$ [4]

19. Write down the n th term for the sequence 5, 14, 23, 32, 41,

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20.



- (a) A pound coin and a dice are thrown.
Find the probability of obtaining a head and a six.

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- (b) The dice is thrown twice.
Find the probability of throwing a three both times.

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[2]

- 21. (a)** A hose pipe is used to fill a bucket and a tank.
The flow of water remains the same for filling the bucket and the tank.
The bucket has a volume of 6 litres.
It takes 40 seconds to fill the bucket.
It takes 3 minutes to fill the tank.

(i) Find the volume of the tank in litres.

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(ii) Write down the volume of the tank in cm^3 .

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