11+

LATYMER UPPER SCHOOL
INDEPENDENT & CO-EDUCATIONAL

SAMPLE

Entrance Examination

MATHEMATICS

Time allowed: 60 minutes

Instructions

- Calculators are NOT allowed. You may use a ruler.
- Attempt all questions.
- If you cannot do a question, go on to the next one and try again later on.
- Do not ask the teacher to explain a question to you.
- If you finish before the end, check your answers and then wait quietly in your place.
- If you do not finish, or if you cannot understand all the questions, do not worry.

Section A

- You should spend about 20 minutes on this section. Each question is worth 1 mark. There are **20** marks for section A.
- Each question is provided with FIVE possible answers, only ONE answer is correct.
- Write the **letter** for the correct answer in the box on the right
- If you make a mistake, rub it out and try again.

Section B

- You should spend about 40 minutes on this section. Marks for each question are shown in square brackets after the question. There are **40** marks for section B
- Write your answers **and working** in the spaces provided. **DO NOT** use extra paper.

Section A

1. What is 483 + 58?

A: 431 B: 441 C: 531 D: 541 E: 551

2. Subtract 108 from 525.

A: 327 B: 417 C: 407 D: 427 E: 633

3. What is 55×160?

A: 8055 B: 8000 C: 8800 D: 9800 E: 8400

4. Jenny divides 344 by 9. What remainder should she get?

A: 6 B: 5 C: 4 D: 3 E: 2

5. What is 912÷16?

A: 58 B: 57 C: 56 D: 54 E: 52

6. Work out three eighths of 264.

A: 61 B: 88 C: 96 D: 99 E: 108

7. Which digit should replace the * below?

$$\begin{array}{rrrr} & * & 5 & 7 \\ - & 2 & 8 & 3 \\ \hline & 4 & 7 & 4 \end{array}$$

A: 1 B: 2 C: 4 D: 6 E: 7

8. 60% of a number is 240. What is the number?

A: 60 B: 144 C: 240 D: 300 E: 400

9. Which of the following gives the largest answer?

A: 15×16 B: 12×20 C: 27×9 D: 22×11 E: 23×10

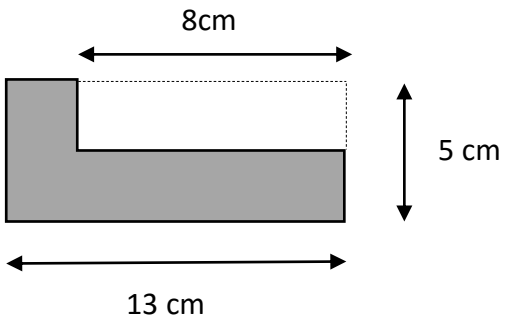
10. Kofi leaves for the shops at 11:23am and returns 2 hours 48 minutes later. At what time does he return?

A: 1:01pm B: 1:11pm C: 2:10pm D: 2:01pm E: 2:11pm

11. Work out: $\frac{2}{5} - \frac{1}{3}$

A: $\frac{1}{2}$ B: $\frac{3}{8}$ C: $\frac{3}{15}$ D: $\frac{1}{8}$ E: $\frac{1}{15}$

12. What is the perimeter of the shape below? [**Diagram not to scale**]



A: 36cm B: 29cm C: 26cm D: 18cm E: More information needed

13. I buy 4 Mega Bars at 65 pence each and 3 Star Bars at 83 pence each. How much change do I get from £10?

A: £4.91 B: £5.09 C: £5.91 D: £5.19 E: £4.81

14. Two **positive** whole numbers add together to make 23. What is the smallest possible answer when the two numbers are multiplied together?

A: 132 B: 1 C: 42 D: 22 E: 23

15. Half of a number is 8 bigger than three sevenths of the number. What's the number?

A: 140 B: 126 C: 119 D: 112 E: 98

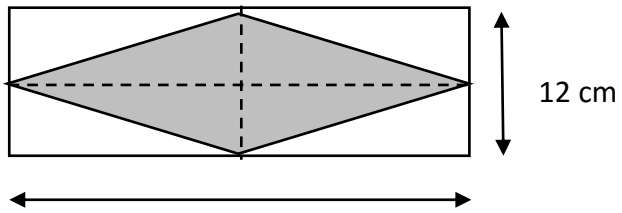
16. Dave and Eddie are cycling around a track. Dave completes a lap every 30 seconds, and Eddie completes a lap every 25 seconds. How many laps will Eddie complete in the time it takes Dave to complete 15 laps?

A: 15 B: 16 C: 18 D: 20 E: 25

17. The total of five **different, positive** odd numbers is 85. What's the most that the largest number could be?

A: 69 B: 35 C: 25 D: 21 E: 17

18. What is the area of the shaded diamond below? [**Diagram not to scale**]



A: 34 cm^2 B: 264 cm^2 C: 198 cm^2 D: 132 cm^2 E: 66 cm^2

19. How many different ways are there of paying exactly 15p using 1p and/or 2p pieces?

A: 2 B: 3 C: 7 D: 8 E: 15

20. I'm thinking of two numbers, one of which is three times as big as the other. When I double one of my numbers and then add it to the other I get 140. Which of the following cannot possibly be one of my numbers?

A: 20 B: 28 C: 50 D: 60 E: 84

Section B

21. Complete the missing numbers in each of the number sequences below:

a) 28, 25, 22, ____, ____, 13, 10.

[1 mark]

b) 3, 4, 6, 9, 13, ____, ____, 31

[1 mark]

c) 5, -10, 20, ____, ____, -160, 320

[1 mark]

22. a) What is the angle between the hour and minute hands of a clock at 6.00pm?

Answer:……. [1 mark]

b) What is the angle between the hour and minute hands of a clock at 6.30pm? [Draw a picture to help]

Answer:……. [2 marks]

c) At what time between 6pm and 6.30pm will the hour and minute hands be exactly 125° apart?

Answer:……. [2 marks]

23. a) What is the remainder when 247 is divided by 7?

Answer:……. [1 mark]

b) Work out 23×438. Show all your working.

Answer:……. [2 marks]

c) Put the following list of fractions in order, starting with the smallest:

$\frac{5}{7}$ $\frac{19}{28}$ $\frac{27}{35}$ $\frac{9}{14}$

Answer:……. [3 marks]

24. For each part of this question you should try to find **all** the possible answers.

a) Three different positive odd numbers add up to 15. What could the three numbers be?

[2 marks]

b) Jenny has two younger brothers. The total of all three of their ages is 15, and Jenny's brothers are both an even number of years old. What could the ages of Jenny and her brothers be?

[2 marks]

25. The diagram below shows part of a train timetable:

Operator	GW	GW	SW	GW	GW	SW	GW	SW	SW	GW	SW	SW	SW
Notes			★			★		H ★	★		H ★	★	★
Reading d	0434	0524	0539	0554	0606	0609	0634		0639	0704		0709	0721
Earley d			0544			0614			0644			0714	
Winnersh Triangle d			0546			0616			0646			0716	
Winnersh d			0548			0618			0648			0718	
Wokingham d	0443a	0533a	0553	0603a	0615a	0623	0643a		0653	0712a		0723	0730
Bracknell d			0559			0629			0659			0729	0736
Martins Heron d			0602			0632			0702			0732	0739
Ascot d			0607			0637		0656	0707		0726	0737	0744
Sunningdale d			0610			0640		0659	0710		0729	0740	0747
Longcross d			|			|		|	|		|	|	|
Virginia Water a			0619			0649		0708	0719		0738	|	0755
Egham a			0623			0653		0712	0723		0742	0750	0758
Staines a			0628			0658		0717	0728		0747	0755	0804
Ashford a			*0636b*			*0711b*		0721	*0741b*		0751	*0811b*	|
Feltham a			0635			0705		0725	0735		0755	0802	0811
Hounslow a			*0646c*			|		*0737c*	|		|	*0812c*	|
Twickenham a			0640			0710		0733	0740		0803	0809	0817
Richmond a			0645			0715		0737	0745		0807	0813	0823
Putney a			0651			0721		*0759e*	*0804e*		|	*0829e*	*0834e*
Clapham Junction a			0656			0726		0746	0753		0816	0822	0832
Vauxhall a			*0711h*			*0741h*		0752	*0811h*		0822	|	0838
London Waterloo a			0707			0737		0759	0806		0829	0836	0846

a) How long does the 0548 from Winnersh take to reach London Waterloo?

Answer:……. [1 mark]

b) How long does the fastest train take to travel from Wokingham to Richmond?

Answer:……. [2 marks]

c) Bob lives in Earley, and needs to be in Waterloo before 8.30am for work. If it takes him 8 minutes to walk from his house to Earley station, what's the latest time he can leave the house?

Answer:……. [2 marks]

26. a) Tommy thinks of a number. When he doubles the number and then subtracts 11, he gets the answer 17. What was his number?

Answer:…….. [1 mark]

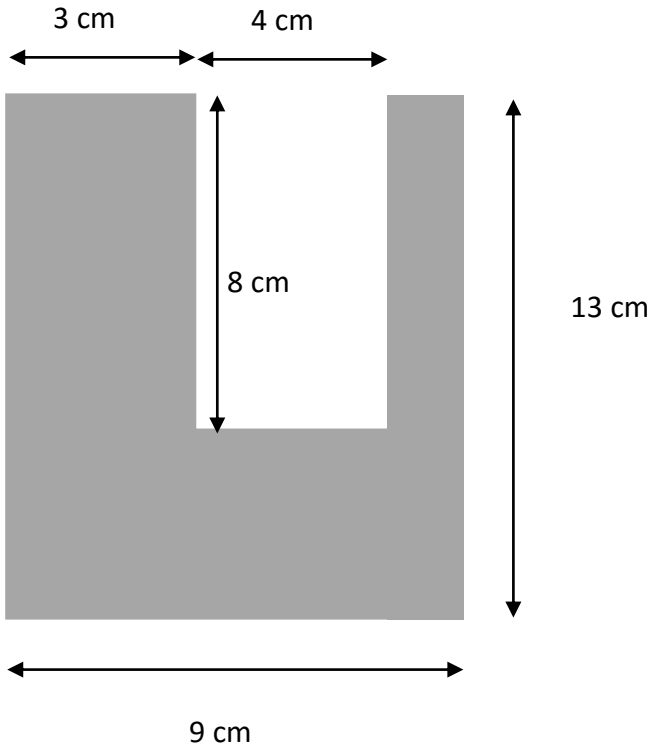
b) Lilly thinks of a number. When she takes away 11 from the number and then doubles the answer, she gets 82. What was her number?

Answer:…….. [1 mark]

c) I'm thinking of a number. When I subtract the number from 45, I get the same answer as when I double the number. What's my number?

Answer:…….. [2 marks]

27. What is the area of the shape below?



(Diagram not to scale)

Answer:……. [3 marks]

28. Imran notices that when he takes the digits of the number 652 and multiplies them together he gets 60.

a) How many three digit numbers are there whose digits multiply to give 60? Write down all the ones you can find.

Answer:…….. [2 marks]

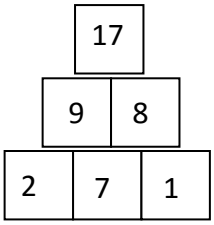
b) What's the biggest three digit number whose digits multiply together to give 40?

Answer:…….. [2 marks]

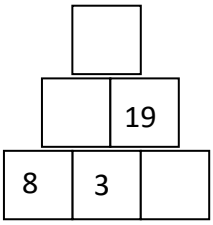
c) Imran says he has found a three digit number whose digits multiply together to give 65. Explain carefully why he must be wrong.

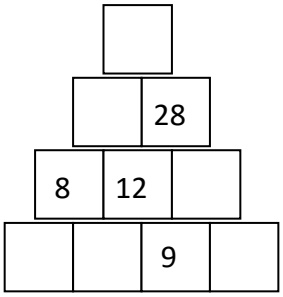
[1 mark]

29. The diagram below is made using the following rule: the number in each square is the total of the numbers in the two squares below it:



a) Complete the diagrams below using the same rule.

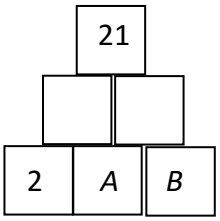




[3 marks]

b) The same rules are used in the diagram below. Also:

- *A* and *B* are positive, whole numbers
- *A* is bigger than *B*



What are the possible values of *A* and *B*?

[2 marks]

End of Questions

Please go back and check your answers