

LATYMER



11+MATHEMATICS

SAMPLE PAPER 2

Time allowed: 60 minutes

Instructions

- Calculators are NOT allowed. You may only 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 provided with FIVE possible answers, only ONE answer is correct.
- Write 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
- Write your answers in the spaces provided

Section A

1. What is $317 + 389$?

- A: 706 B: 751 C: 796 D: 806 E: 851

2.

$$\begin{array}{r} 8 \quad * \quad 2 \\ 4 \quad 8 \quad 5 \\ \hline 3 \quad 4 \quad 7 \end{array}$$

Which of the following gives the correct number for *?

- A: 1 B: 3 C: 5 D: 7 E: 9

3. What is three-fifths of 270?

- A: 54 B: 162 C: 216 D: 250 E: 270.8

4. Work out $441 \div 7$

- A: 89 B: 79 C: 77 D: 63 E: 45

5. What is 55×8 ?

- A: 600 B: 480 C: 360 D: 400 E: 440

6. Which of these quantities could be the length of a football pitch?

A: 4000 km B: 4000 mm C: 4000 m D: 4000 feet E: 4000 inches

7. A furlong is 220 yards and a mile is 1760 yards. How many furlongs are $3\frac{1}{2}$ miles?

A: 15 B: 16 C: 28 D: 30 E: 35

8. How many times bigger is 650 000 than 0.65?

A: 1000 B: 10 000 C: 100 000 D: 1 000 000 E: 65 000

9. Which of the following is the smallest?

A: 17×3 B: 50 C: $\frac{1}{4}$ of 198.7 D: $23.8 + 26.9$ E: 7×7.2

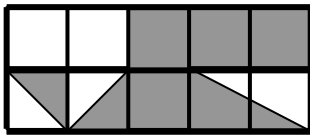
10. Trevor has five times as many sweets as Siobhan. Siobhan has 24 sweets fewer than Trevor. How many sweets does Trevor have?

A: 25 B: 30 C: 35 D: 40 E: 48

11. What time is 27 minutes before 5.13 pm?

A: 4.36 pm B: 4.46 pm C: 4.56 pm D: 5.06 pm E: 5.40 pm

12. What fraction of this rectangle is shaded?



A: $\frac{1}{2}$ B: $\frac{9}{20}$ C: $\frac{3}{5}$ D: $\frac{11}{20}$ E: $\frac{7}{10}$

13. Three-sevenths of a number is 36 less than the number. What is the number?

A: 252 B: 126 C: 84 D: 63 E: $15\frac{3}{7}$

14. What is 65% of £440?

A: £242 B: £269 C: £280 D: £282 E: £286

15. Two pears and three oranges cost £1.06. One pear and four oranges cost £1.03. How much more does a pear cost than an orange?

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

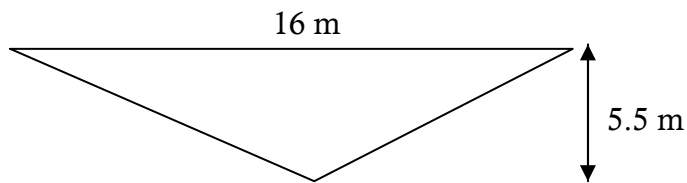
16. A car travels at 45 mph. How far will it travel in 2 hours 40 minutes?

A: 120 miles B: 90 miles C: 112.5 miles D: 108 miles E: 216 miles

17. Here is a set of numbers: 3, 2, 5, 1, 8, 3, 9, 5, *, #. If the mode of the set of numbers is 3 and the range is 10, what is * + #?

A: 14 B: 15 C: 16 D: 17 E: 18

18. What is the area of the triangle below? (Diagram not to scale)



A: 52 m² B: 48 m² C: 46.5 m² D: 45 m² E: 44 m²

19. One of the angles in an isosceles triangle is quadruple one of the other angles. Which of these answers gives a possible value for the smaller angle?

A: 15° B: 18° C: 20° D: 36° E: 54°

20. A fresh grape is 80% water. When a grape is dried to become sultana, it loses fifteen-sixteenths of its water. What percentage of a sultana is water?

A: 5% B: 20% C: 25% D: 37.5% E: 75%

Section B

21. a) Work out 27×731

b) Subtract -8 from -11 .

c) Divide 347 by 12. Your answer should have a remainder

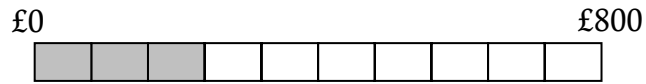
22. Fill in the missing numbers in the following sequences:

a) 8, 17, 26, _____, _____, 53, 62

b) 3, 6, 11, 18, 27, _____, _____, 66, 83

c) -3 , 6, -12 , _____, _____, 96, -192

23. Juliet is raising money for her local animal hospital. She aims to raise £800. To see how she is progressing she makes a chart and shades in the amount that she has raised.



a) How much has she raised so far?

Answer.....

b) What is this as a percentage of her target of £800?

Answer.....

c) At a CAR BOOT SALE she raises another £320. Show this on the diagram above.

d) What fraction has she got left to raise?

Answer.....

24. a) 40% of my salary is £14 000. What is my salary?

Answer:.....

b) Three-sevenths of an amount is £2 more than two-fifths of the amount. What is the amount?

Answer:.....

25. a) How many numbers between 1 and 200 **inclusive** can be divided exactly by 5?

Answer.....

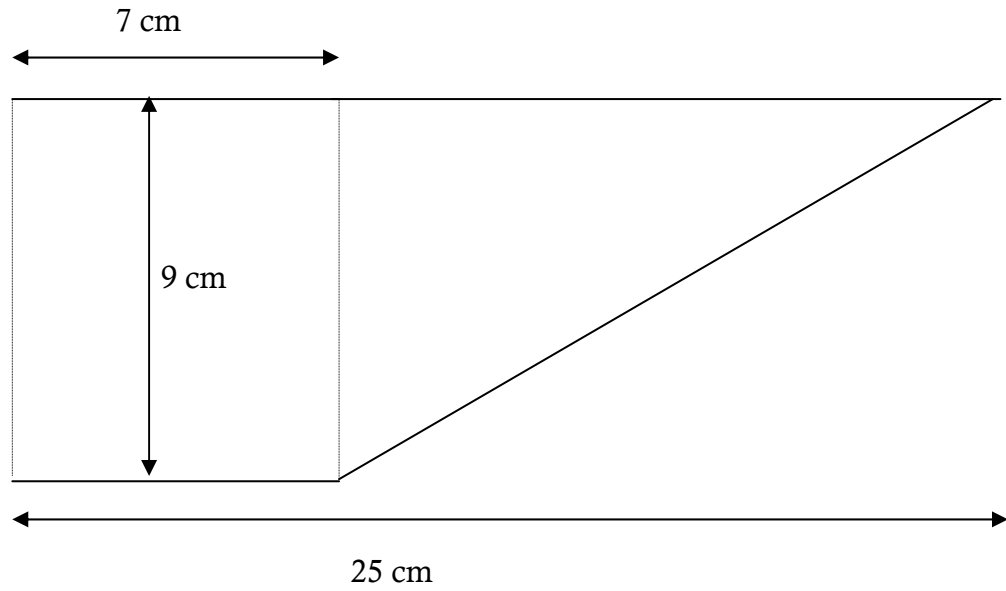
b) How many numbers between 1 and 200 can be divided exactly by 7?

Answer.....

c) How many numbers between 1 and 200 can be divided exactly by 5 or 7, or both?

Answer:.....

26. Work out the area of the shape below: (Diagram not to scale)



Answer.....

27. The symbol \wedge represents a new mathematical operation, which works like this:

- $3 \wedge 5 = 7$, because $3^2 + 5^2 = 34$ and then $3 + 4 = 7$
- $2 \wedge 6 = 4$, because $2^2 + 6^2 = 40$ and then $4 + 0 = 4$
- $11 \wedge 4 = 11$, because $11^2 + 4^2 = 137$ and then $1 + 3 + 7 = 11$

(In words, the operation is "square both numbers, add them together and then find the sum of the digits of this number")

a) What is $6 \wedge 3$?

Answer.....

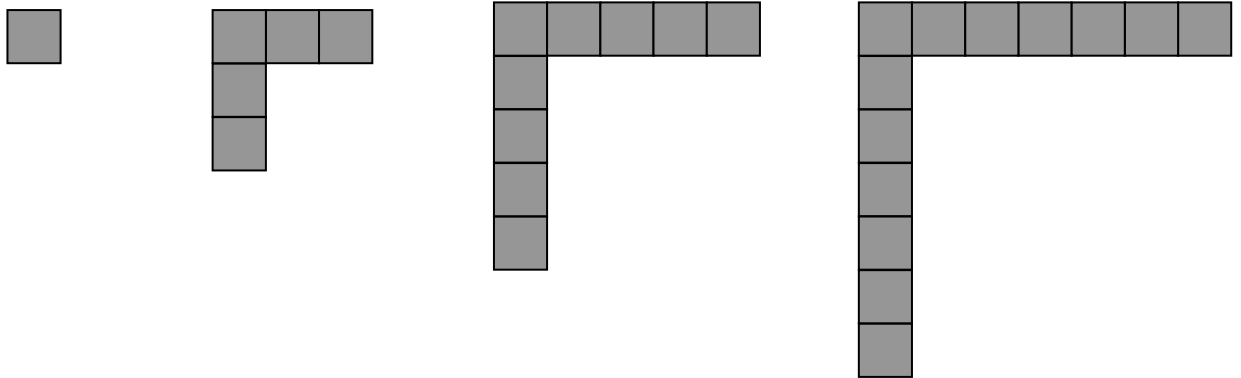
b) What is $3 \wedge (4 \wedge 3)$?

Answer.....

c) Find two values of a for which $a \wedge a = 9$.

Answer.....

28. A pattern is made using squares. The first four patterns are shown below:



a) Complete the table below:

| | | | | |
|-------------------|---|---|---|---|
| Pattern number | 1 | 2 | 3 | 4 |
| Number of squares | 1 | 5 | | |

b) How many squares will there be in the

i) fifth pattern?

Answer.....

ii) twelfth pattern?

Answer.....

c) Which pattern will have 37 squares?

Answer.....

d) Naomi correctly draws one of the patterns and announces that there are 199 squares. Explain why she must be wrong.

29. a) John and Kofi have 25 coins between them. If John gives Kofi four coins, Kofi will have three fewer coins than John. How many coins does John have to start with?

Answer:.....

- b) Beryl says to Algernon, "if you give me £3, we'll have the same amount." Algernon says to Beryl, "If you give me £3, I'll have twice as much as you." Both of them are telling the truth. How much does Algernon have?

Answer:.....

- c) The ratio of parrots to bears in my menagerie is 2:5 (in other words for every 2 parrots there are 5 bears), and the ratio of parrots to crocodiles is 7:2. If I have 12 crocodiles, how many bears do I have?

Answer:.....

30. a) A snail travels 4 inches in a minute. How long will it take to travel 800 yards?
Give your answer in hours.

Note: 12 inches make one foot, and 3 feet make one yard

Answer:.....

- b) How many weeks is $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9 \times 10$ seconds?

Answer:.....