



ENTRANCE EXAMINATION

SPECIMEN PAPER 1

Time: 1 hour and 30 minutes

MATHEMATICS

- This paper consists of **25 questions**.
- Answer **ALL** the questions in the spaces provided.
- You must **show all your working**.
- Your answers must be clearly and neatly presented.

1. If $86 \times 132 = 11352$ find without any calculations the following:

(a) $86 \times 0.132 =$

(b) $0.086 \times 1320 =$

(2 marks)

Answer:

.....

2. Solve the following:

(a) $\left(4\frac{2}{3} - 2\frac{1}{6}\right) \div 1\frac{1}{2} =$

(4 marks)

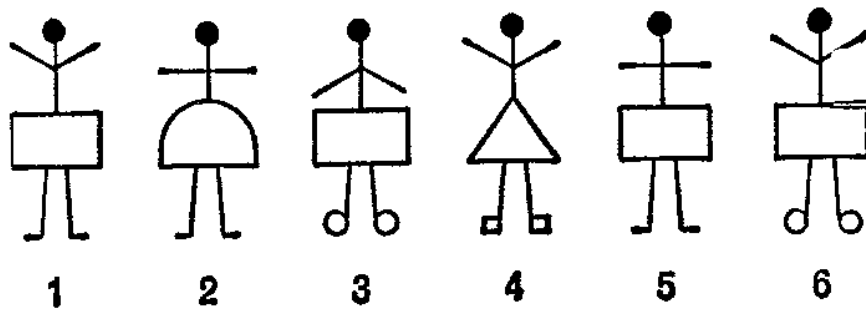
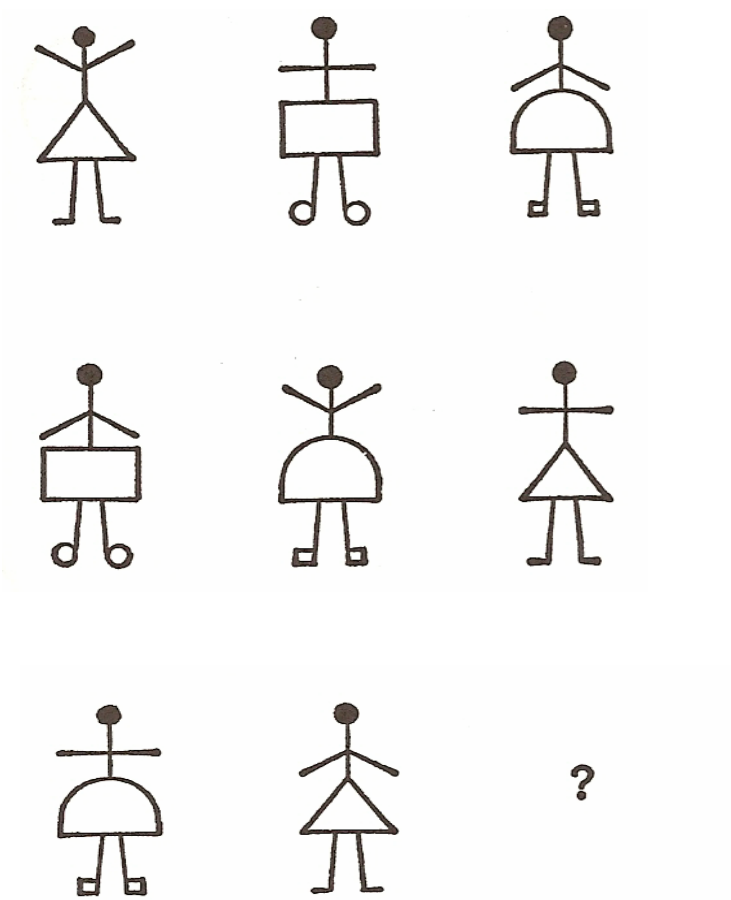
Answer: (a).....

(b) $4 \times 2^3 + 5 \times \left(\frac{6}{5} + 2\right) =$

(3 marks)

Answer: (b).....

3. Choose one of the six figures below that best fits the position of the question mark.



(2 marks)

4. Alexia is 10cm taller than Georgia. Maria is 18cm shorter than Alexia. If Georgia is 1.45m, what is Maria's height?

(3 marks)

Answer:

5. (a) Write the following numbers in an order, starting from the smallest one.

0.71 0.701 0.071 0.7 0.07

(1 mark)

Answer: a).....

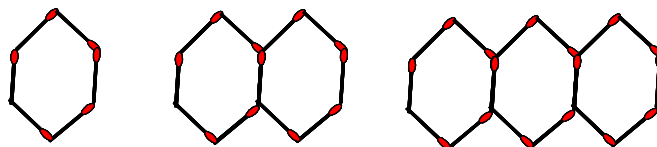
(b) Write the number 2.25 as a fraction in its simplest form.

(2 marks)

Answer: (b).....

6. The figures below show a sequence of shapes made by using matches. Find the number of matches that correspond to position 4.

(2 marks)



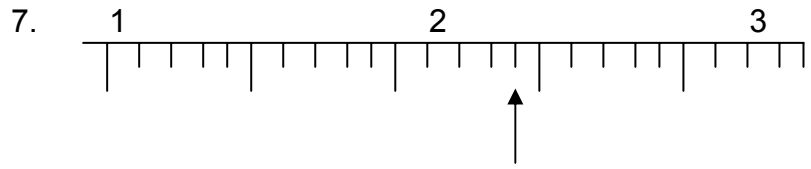
Position: 1

2

3

4

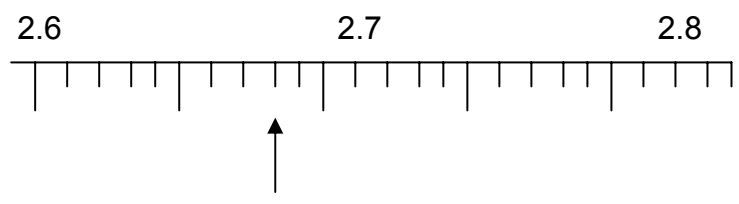
Answer:.....



(a) Find the number indicated by the arrow.

(1 mark)

Answer: (a)



(b) Find the number indicated by the arrow.

(1 mark)

Answer: (b)

(c) Write the number 6.279 correct to the nearest integer.

(1 mark)

Answer: (c)

8. A plastic hoop used in gym class at school has diameter 0.64 metres.
Find its perimeter. ($\pi = 3.14$)

(3 marks)

Answer:

9. When a teacher was asked about his age, he said:
“My age is a prime number which is smaller than 25. If you reverse the figures of the number you will get the same number as the number of students in this class, which can be divided in groups of 2 or 4 exactly”

Find the age of the teacher.

(3 marks)

Answer:

10. I am playing a game with dice. Find the probability:

(a) of getting a 6 when I through one of the dice,

(b) of getting anything except from 2 when I through one of the the dice.

(4 marks)

Answers: (a)

(b)

11. John got 65% in a Mathematics test.

- (a) If the total marks of the test were 40, how many marks out of 40 did he score?
- (b) Find the percentage mark that John has to score in his next test, so that the average mark of the two tests is 82%.

(4 marks)

Answers: (a)

(b)

12. In each of the boxes below, write down the appropriate number so that:

(a) 7 3 is divisible by 3 and 5.

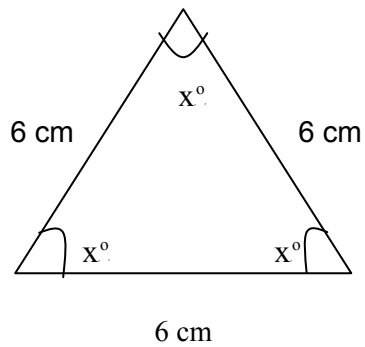
(b) 4 0 is divisible by 2 but not by 5.

(4 marks)

13. In the following figures, find the unknown angles.

(a)

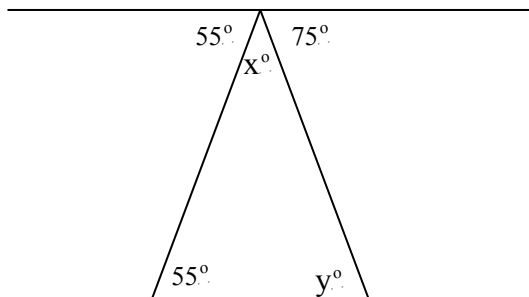
(2 marks)



Answer: $x^\circ = \dots\dots\dots$

(b)

(2 marks)



Answers: $x^\circ = \dots\dots\dots$

$y^\circ = \dots\dots\dots$

14. I want to paint a wall the area of which is 188 m^2 . With one tin of paint I can paint 20 m^2 .

(a) What is the minimum number of tins I will need?

(b) If each tin costs €1.56, find how much change will I get if I give €20.

(4 marks)

Answers: (a) _____

(b) _____

15. A team of 22 students rented a bus for their trip to Paphos. Just before departure, 10 more students decided to join the group. As a result €15 were returned to each of the 22 members of the original group. How much did the rental of the bus cost?

(4 marks)

Answer:

16. Angelos and Charis had a meal together at a restaurant. Each one of them paid for himself. The total of the bill was €52.24 and Angelos paid €3 more than Charis. How much money did Angelos pay?

(4 marks)

Answer:

17. At 8:00a.m, Nikos took his car and drove from town A towards town B at 40 km per hour. After half an hour, Chris drove from town A towards town B, following the same route. If they both arrive at town B at 11:00a.m, find:

(4 marks)

(a) the distance between town A and town B,

Answer: (a).....

(b) Chris's speed.

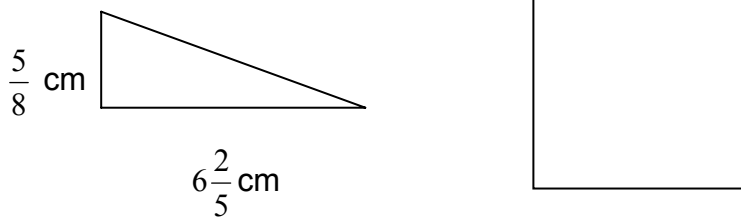
Answer: (b).....

18. Two angles are complementary. If the first is 12° larger than the other one find the two angles.

(3 marks)

Answer:

19. (Diagrams not drawn to scale)



The area of the square is 18 times the area of the triangle. Find the perimeter of the square.

(4 marks)

Answer:

20. A greengrocer bought 150 kg of oranges and paid €90. He sold 60% of the oranges at a profit of 40%, while he sold the rest of the oranges for 0.8 cent per kilo. Find the total profit he made.

(4 marks)

Answer:

21. Find the value of x in each of the following equations:

(5 marks)

(a) $5^x = 25$

Answer: (a)

(b) $4 \times \left(\frac{1}{3}\right)^0 = x$

Answer: (b)

(c) $\frac{x}{3} = \frac{18}{27}$

Answer: (c)

(d) $\frac{56}{12} = \frac{7}{x}$

Answer: (d).....

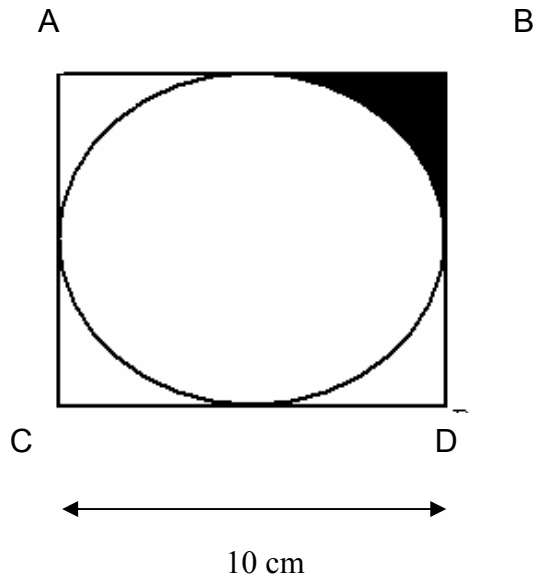
(e) $3^x \times 3^3 = 3^8$

Answer: (e).....

22. ABCD is a square. Find the area of the shaded region giving your

answer correct to 2 decimal places. ($\pi = 3.14$)

(5 marks)



Answer:

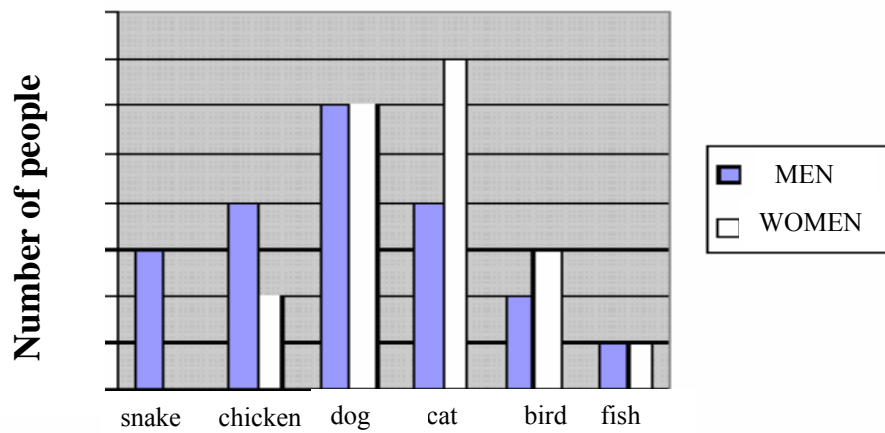
23. $\frac{5}{8}$ of a tank with dimensions $1.2 \text{ m} \times 0.6 \text{ m} \times 0.5 \text{ m}$ is filled with oil.

Mr. Michael has got bottles the capacity of which is $\frac{2}{5}$ of a litre each, which he fills up with oil. Find how many bottles can he fill up from this tank.

(5 marks)

Answer:

24. The graph presents the answers given by men and women when asked what pet they had.



Find:

(a) the number of men and women that participated in this research.

(2 marks)

Answer: Men.....
 Women

(b) how many people in total have chicken at home.

(1 mark)

Answer:

(c) What the probability of choosing a man who has a cat is.

(2 marks)

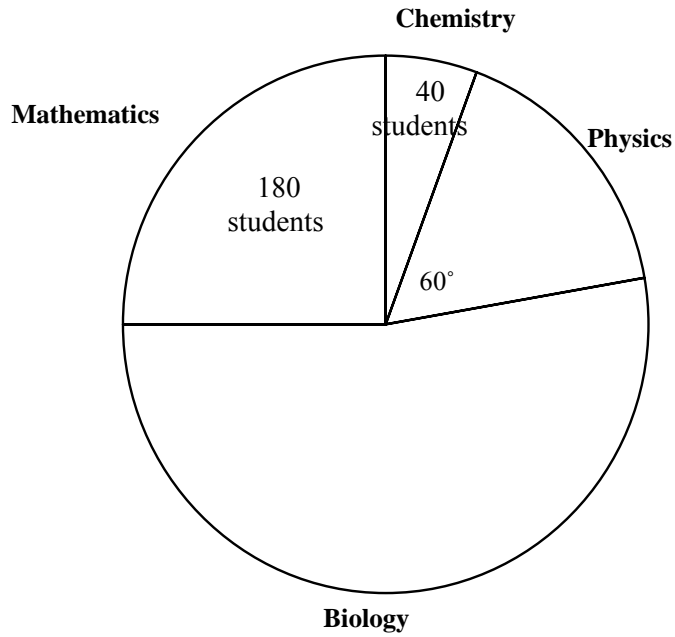
Answer:

(d) the fraction that represents the number of people who have a bird at home.

(2 marks)

Answer:

25. The following pie chart shows the four most popular classes students take at a school.



Find:

(a) the total number of students taking these classes.

(2 marks)

Answer: (a)

(b) the number of students who study Biology.

(3 marks)

Answer: (b)

(c) the percentage of students who study Mathematics.

(2 marks)

Answer: (c)

END