

**Primary Six
Mathematics
Semestral Assessment Two**

Questions 1 to 5 carry 1 mark each. Question 6 to 15 carries 2 marks each. Each question is followed by four possible answers. Mark your choice [1, 2, 3, 4] in the given box. (Total: 25 marks)

1. Which of the following numbers is the largest?

- (1) 0.96
- (2) 0.69
- (3) 0.962
- (4) 0.269

Answer:

2. Find the value of $30 + 15 \div (8 - 5)$.

- (1) 6
- (2) 15
- (3) 25
- (4) 35

Answer:

3. $\frac{7}{1000} + \frac{9}{10}$ has the same value as _____?

- (1) $\frac{97}{100}$
- (2) $\frac{97}{1000}$
- (3) $\frac{907}{1000}$
- (4) $\frac{970}{1000}$

Answer:

4. If today is Tuesday, what day of the week will it be 12 days from now?

- (1) Saturday
- (2) Sunday
- (3) Monday
- (4) Tuesday

Answer:

5. A typist can type 60 words in 30 seconds. How many words can she type in 2 minutes?

- (1) 90
- (2) 120
- (3) 130
- (4) 240

Answer:

6. $\frac{4}{5}$ of a number is equal to $\frac{2}{3}$ of 90. What is the number?

- (1) 12
- (2) 15
- (3) 48
- (4) 75

Answer:

7. John is 8cm taller than Peter but 5 cm shorter than Anthony. Find the total height of the 3 boys in terms of y if Peter's height is y cm.

- (1) $(y + 13)$ cm
- (2) $(3y + 13)$ cm
- (3) $(3y + 21)$ cm
- (4) $(3y + 39)$ cm

Answer:

Study the bar graph below carefully. It shows the results of a survey of shoe sizes for 12 year-old students. Use the graph to answer questions 8 and 9.



8. What fraction of the total number of students wear size-6 shoes?

- (1) $\frac{4}{15}$
- (2) $\frac{3}{5}$
- (3) $\frac{1}{2}$
- (4) $\frac{1}{3}$

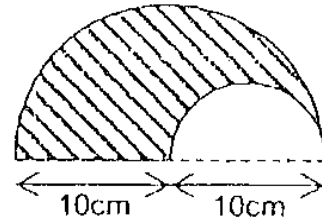
Answer:

9. How many percent more students wear size-6 shoes than size-5 shoes?

- (1) 20%
- (2) $83\frac{1}{3}\%$
- (3) 140%
- (4) 500%

Answer:

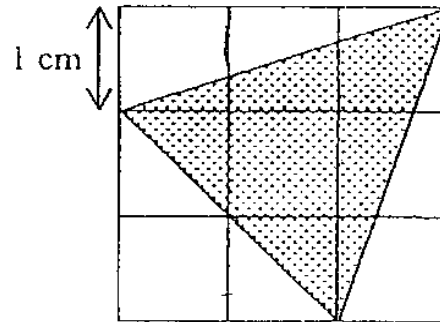
10. The figure below shows two semicircles.
Find the perimeter of the figure in terms of π .



- (1) $(15\pi + 10)$ cm
 (2) $(30\pi + 10)$ cm
 (3) 25π cm
 (4) 75π cm

Answer:

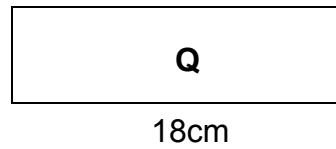
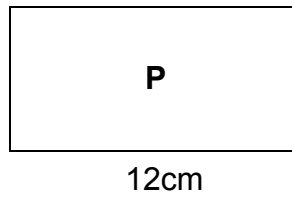
11. The figure below is made up of 5 squares, each of side 1 cm. Find the area of the shaded triangle.



- (1) 3.5 cm^2
 (2) 4 cm^2
 (3) 4.5 cm^2
 (4) 5 cm^2

Answer:

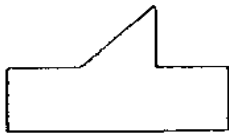
12. Rectangles of P and Q are equal in area.
If the perimeter of P is 36 cm, find the perimeter of Q.



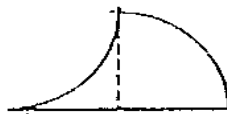
- (1) 44 cm
- (2) 52 cm
- (3) 72 cm
- (4) 144 cm

Answer:

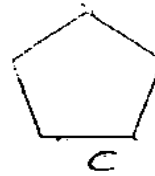
13. Which of these shapes can be tessellated?



A



B



C



D

- (1) A only
- (2) A and B only
- (3) B and C only
- (4) C and D only

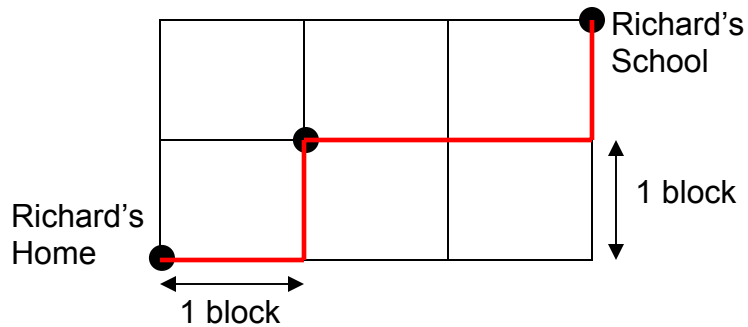
Answer:

14. Peter has $1\frac{1}{2}$ times as many stamps as Victor. Find the ratio of the number of stamps Peter has to their total number of stamps.

- (1) 2 : 3
- (2) 2 : 5
- (3) 3 : 2
- (4) 3 : 5

Answer:

15. Richard's school is 5 blocks away. Every morning, Richard walks from home to school. The grid shows one way Richard walks to school passing through point C. How many different ways can Richard walk to school, which is five blocks away, and passing through point C?



- (1) 4
- (2) 5
- (3) 6
- (4) 7

Answer:

Questions 16 t 35 carry 1 mark each. Write your answers in the spaces provided. All answers in fractions must be expressed in the simplest form. Give your answers in the units stated. (Total: 20 marks)

16. Express 40g as a fraction of 2 kg.

Answer:

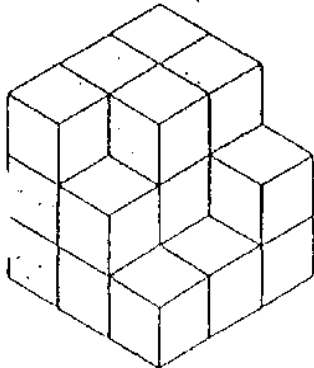
17. What is half of $99\frac{1}{2}$?

Answer:

18. What is 3 tenths less than 16.07?
(Give your answer correct to 1 decimal place)

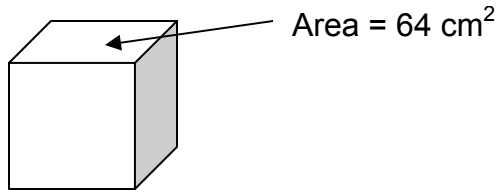
Answer:

19. The solid figure below is made up of unit cubes. How many unit cubes were used to build the solid figure?



Answer:

20. What is the volume of the cubes?



Answer:

21. Alan is 7 years 7 months old. His brother's age is 4 years 9 months.
What is their average age?

Answer:

years months

22. Each cup can hold 230ml of water.
How much water can 5 such cups hold?

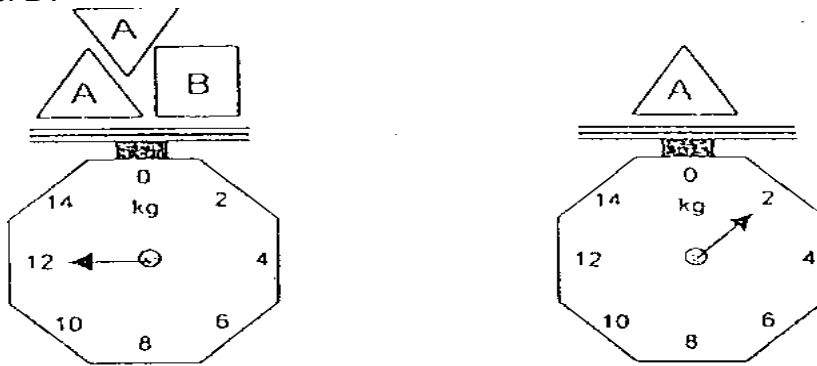
Answer:

l ml

23. Mary had 1 roll of ribbon. She used $1\frac{1}{2}$ m of ribbon to wrap each gift.
After wrapping 4 gifts, Mary had 80cm of ribbon left. How long was the roll
of ribbon?

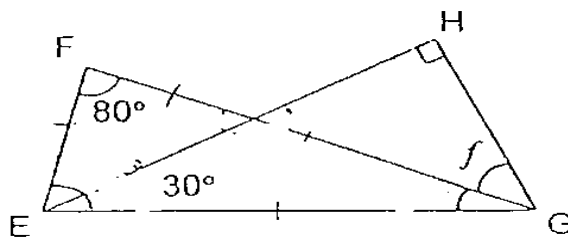
Answer:

24. There are two types of parcels being weighed. What is the weight of the parcel B?



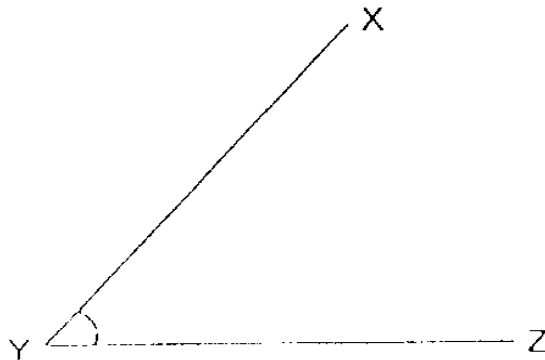
Answer: kg

25. In the figure, EFG is an isosceles triangle. EHG is a right-angled triangle. Find $\angle f$.



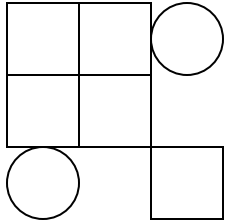
Answer: °

26. In the figure, XY and YZ are straight lines. Measure and write down the size of XYZ.

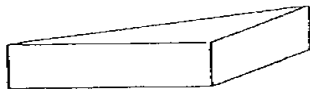


Answer: °

27. Draw a line of symmetry of the figure.



28. How many faces does the solid have?



Answer:

29. Sulin took 3 tests and scored an average mark of 82. Find her score for the third test if the total of the first 2 tests was 156.

Answer:

30. What percentage of 2 hours is 45 minutes?

Answer:

 %

31. For every \$10 Joe saved, he received another \$5 from his father. How much did he receive from his father if his total savings was \$300?

Answer:

 \$

32. Simplify the following:

$$20a + 7 - 8a - 5 + 11$$

Answer:

33. Find the value of $3m^2 - 4m$ given that $m = 6$?

Answer:

The table below shows the weight of Sarah's puppy from July to December. Study the table carefully and answer questions 34 and 35.

Month	Weight (kg)
July	10
August	15
September	18
October	22
November	21
December	20

34. In which month was the puppy heaviest?

Answer:

35. How much weight did the puppy gain during this 6-month period?

Answer:

For questions 36 to 50, show your working clearly in the space below each question and write your answers in the spaces provided. The number of marks for each question is shown in brackets [] at the end of the question. (Total: 55 marks)

36. What is the missing number in the box? [2 marks]

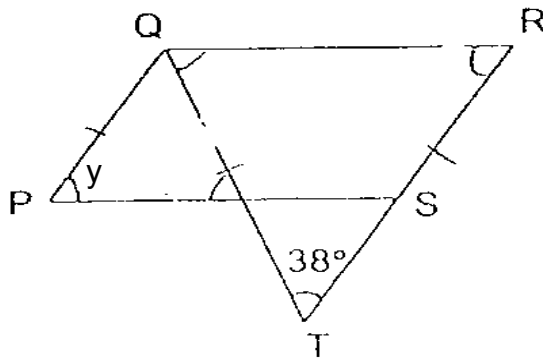
$$13 \times 47 + \boxed{\text{?}} \times 47 = 30 \times 47$$

Answer:

37. The ratio of the cost of a TV set to the cost of a personal computer is 7:5. If the personal computer cost \$490 less than the TV, how much is the total cost of the 2 items? [2 marks]

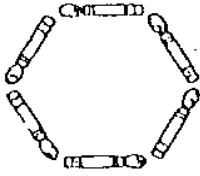
Answer:

38. In the figure, not drawn to scale, PQRS is a parallelogram. $QT = RT$. Calculate $\angle y$. [2 marks]

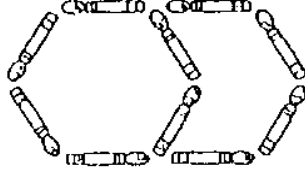


Answer:

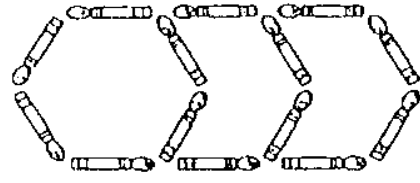
39. Complete the table below and look for a pattern to predict the number of matches needed for the tenth diagram. [3 marks]



Pattern 1



Pattern 2



Pattern 3

Pattern Number	1	2	3	4	5	...	10
Total Number of Matches	6	10	14			...	

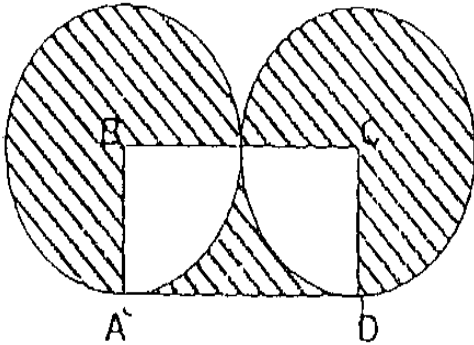
40. Pencils are sold at the following rate:

\$0.50	For 1 pencil
\$2.80	For 6 pencils
\$5.20	For 12 pencils

Find the least amount Muthu has to pay if he buys exactly 32 pencils.
[3 marks]

Answer:

41. The figure is made up of two identical circles and a rectangle ABCD. B and C are centers of the two circles. Given AD = 14cm, find the area of the shaded region. (Take $\pi = \frac{22}{7}$) [3 marks]

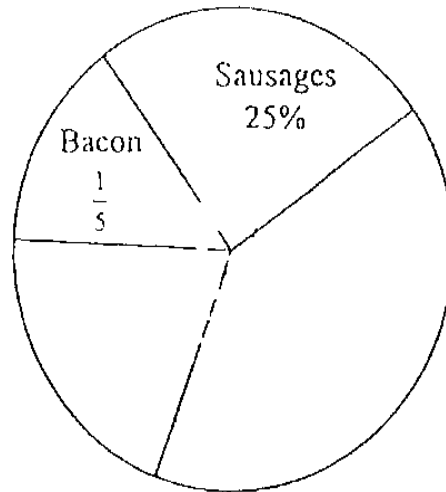


Answer:

-
42. Joan is 31 years older than her daughter, Jasmine, but 2 years younger than her husband, Jack. If the sum of their three ages is 100, how old is Jack? [4marks]

Answer:

43. A group of pupils were asked to name their favourite pizza. The pie chart represent their choices.



- (a) Express as a ratio the number of pupils who preferred Mushrooms to those who preferred Sausages. [1 mark]
- (b) Find the total number of pupils. [3 marks]

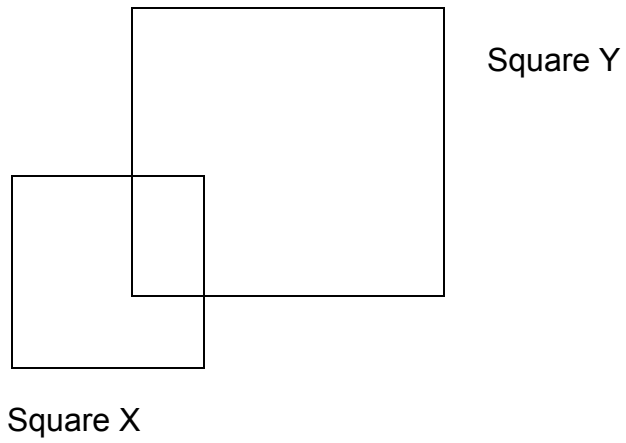
Answer: (a)

Answer: (b)

44. A bookshop owner had 720 fiction and non-fiction books. Out of this total number, 30% of them were non-fiction books. He bought some more non-fiction books until the number of non-fiction books had increased to 40% of the new total. How many more non-fiction books did he buy? [4 marks]

Answer:

45. The ratio of the areas of Square X to Square Y is 1:5.
If 20% of square X overlapped with square Y, what percentage of the whole figure does not overlap? [4 marks]



Answer:

46. Anne, Benny, Carol and David each spent a different amount of time completing their homework.

One spent 3 hours and 40 minutes.
One spent 2 hours and 50 minutes.
One spent 4 hours and 15 minutes.
One spent 1 hour and 45 minutes.




Use the clues below to figure out how much time each person spent on their homework. Then put a tick (✓) in the table that corresponds to the time each person spent on homework.

- If you rounded the number of minutes that Anne spent on her homework to the nearest hundred, it would be 200 minutes.
- Anne spent more time than Carol on homework.
- David spent 220 minutes on his homework.

[4 marks]

	Anne	Benny	Carol	David
3 h 40 min				
2 h 50 min				
1 h 45 min				
4 h 15 min				

47. (a) How many 3-digit numbers can be formed with the digits 8, 6 and 1?
(Hint: Make a systematic list.) [2 marks]

(b) Use the clues given to find the value of ,  and . [3 marks]

$$\text{heart} + \text{crescent moon} = 14$$

$$\text{heart} - \text{crescent moon} = 4$$

$$\text{heart} + 1 = \text{star}$$

$$\text{crescent moon} + \text{crescent moon} = \text{star}$$

Answer: (a)

Answer: (b)



48. There were 40 pupils in a class. Each of them contributed \$5 towards a class party. The Form Teacher also contributed \$10.

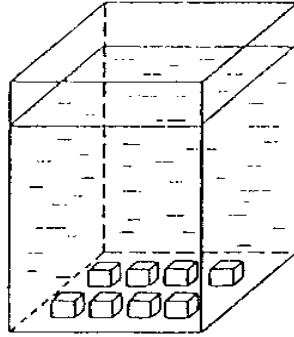
$\frac{3}{5}$ of the total amount contributed was spent on food and $\frac{2}{7}$ of the remainder on drinks. After spending some more money on prizes, there was \$15 left.

- (a) What was the total amount contributed? [2 marks]
- (b) How much was spent on prizes? [3 marks]

Answer: (a)

Answer: (b)

49. The base of a container is a square of side 30cm. Eight 5 cm cubes are placed in the container. The water is poured into the container until it is $\frac{7}{8}$ full. When all the cubes are removed without any loss of water, the water level drops to $\frac{5}{6}$ the height of the container. Find the height of the container. [5 marks]



Answer:

50. Alan and Raja took part in a 10-km cross-country race. Alan ran half the distance at a speed of 8km/h and jogged the rest of the way at a speed of 4km/h. Raja ran half of his total time at 7.5km/h and jogged the rest of the time at 5km/h.

(a) Find the total time taken by Alan. [2 marks]

(b) If they started the race together, which one of the two boys finished before the other? [3 marks]

Answer: (a)

Answer: (b)