1) Thirty-two million, four hundred and fifty thousand and twenty-two.
   What is this number in digits?

A 3,245,022
B 32,450,022
C 32,000,220
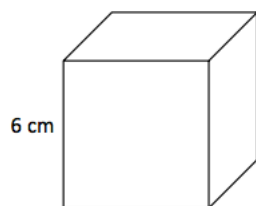**D** 30,450,022
E 32,405,022

2) Which of these groups of letters does not have a vertical line of symmetry?

A HTYYTH
B TIIT
C UIOIIOIU
D AXUIUAX
E UUTTTTUU

3) A crate holds 27 bananas. How many crates are needed to hold 345 bananas?

ANSWER: _____

4) A cube has a height of 6 cm.
   What is the volume of the cube?

6 cm

ANSWER: _____

5) The table below shows the population of men and women in a town. It also shows what percentage of the population voted in a recent election.

	Population	Voted
Women	12,000	55%
Men	13,000	25%

How many more women voted than men?

A 3,350
B 12,000
C 3,250
D 13,000
E 6,600

6) Below is a diagram of a plot of land drawn using the scale 1 cm to 6 m.
What is the area of the plot of land in m^2?

ANSWER: _____

7) What is the time 7 minutes after midnight?

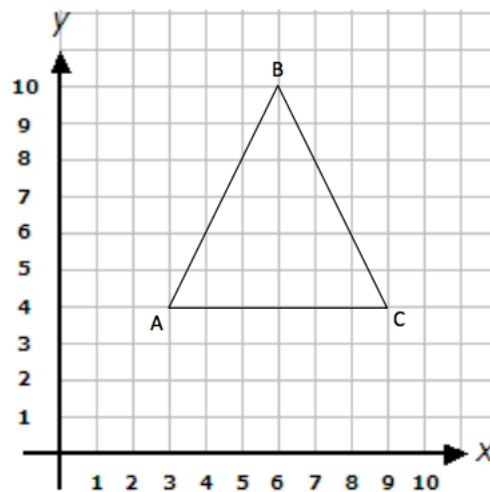**A** 12.07 pm
B 00.07
C 7.12 am
D 24.07
E 23.07

8) If *y* + *u* = 7, what is the value of *y* + *u* - 4?

A 7
B 11
C 4
D 3
E More information needed

9) The numerator of a certain fraction is 4 less than the denominator. If the fraction is equivalent to ⅘, what is the denominator of this fraction?

A 20
B 8
C 10
D 12
E 25

10)

Each unit on the graph above is equivalent to 1 cm.
What is the area of triangle ABC?

ANSWER: _____

11) 5 friends are planning to go on a 4-day holiday. Each of them requires 1 bottle of water for each day of the trip. If bottles of water are only available in packs of 3, how many packs of water must they buy?

A 60
B 6
C 5
D 20
E 7

12)

Number of cookies	Cost
1 cookie	59 p
Box of 6 cookies	£3.10
Box of 12 cookies	£6.00

The table above shows the price of cookies at the local market. Ben buys 22 cookies using the least amount of money possible. How much does Ben pay?

ANSWER: _____

13) Alice, Beth, Catherine and Daisy all ran a race.
Their mean time was 54 seconds. Alice's time was 52 seconds. Beth's time was 5 seconds slower than Alice's. Catherine's time was 7 seconds faster than Beth's. What was Daisy's time?
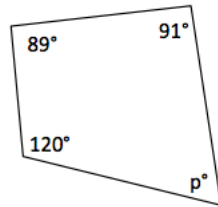
A 52 seconds
B 48 seconds
C 59 seconds
D 57 seconds
E 55 seconds

14) There are 32 litres of water in a container. If I pour out 200 ml per minute, how long will it take me to empty the container.

A   2⅔ hours
B   3¼ hours
C   2⅗ hours
D   1⅞ hours
E   2⅚ hours

15) What is the measure of angle p in the shape below?

ANSWER: _____

16) If all the men in the Gower family are over 2 m tall, which of the following **must** be true?

A   Some women in the Gower family are over 2 m tall.
B   No man in the Gower family is less than 200 cm tall.
C   No men in the Gower family are less then 210 cm tall.
D   All the men in the Gower family have brown hair.
E   The Gower family consists of three men and two women.

17) Sam is older than Gill but younger than Harry. If the letters *s*, *g*, and *h* represent the ages of Sam, Gill and Harry, which of the following is true?

A $s < g < h$
B $g < h < s$
C $h < s < g$
D $s < h < g$
E $g < s < h$

18) What is the greatest three-digit number that is also a multiple of 10?

ANSWER: _____

19) The following cake recipe serves 5 people. How much butter do I require if I wish to adapt the recipe to serve 11 people?

| Recipe |
| --- |
| 4 eggs |
| 300 g flour |
| 150 g sugar |
| 90 g butter |

A 1 kg
B 0.4 kg
C 198 g
D 213 g
E 90 g

20) A school has 456 pupils. If there are 22 more boys than girls, how many girls are there in the school?

ANSWER: _____

21) A sequence is derived by doubling the previous term and then adding two. If the second term in the sequence is 16, what is the fifth term?

A 162
B 150
C 196
D 142
E 96

22) What is the surface area of this cuboid?
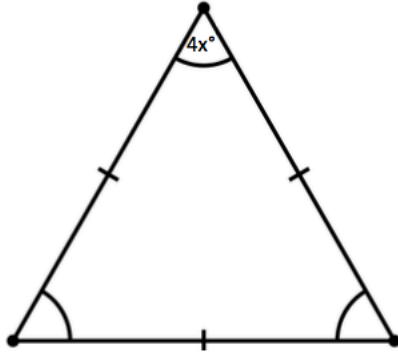

6 cm

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3 cm

12 cm
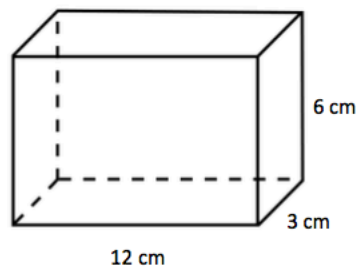
ANSWER: _____

23) 12 workers take 6 hours to build a fence. How long would it have taken 9 workers to build the fence?

A 7 hours
B 12 hours
C 9 hours
D 15 hours
E 8 hours

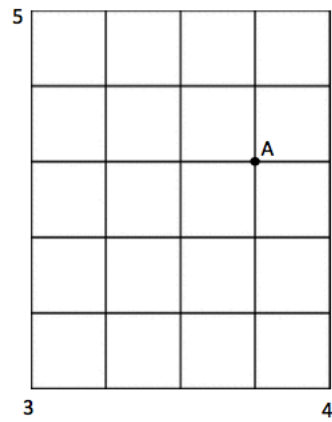24) If h is a whole number that is divisible by 3 and $h < 57$, what is the greatest possible value of h?

ANSWER: _____

25) The diagram below is of an equilateral triangle.
What is the value of *x?*

A 30°
B 15°
C 60°
D 240°
E 180°

26)

What are the coordinates of point A?

A (4.2 , 3.5)
B (3.75 , 4.2)
C (3 , 5)
D (3.8 , 4)
E (3.75 , 3.75)

27) Which number is not a cube number?

A 125
B 1
C 216
D 16
E 64

28) What percentage of 3 litres is 600 ml?

A 60%
B 20%
C 30%
D 25%
E 40%

29) Which triangle contains 3 acute angles?
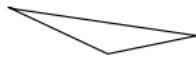
A   **B**   **C**   **D**   **E**

30) 8 students took an exam. Their marks are listed below.

    12 9 8 15 17 21 14 13

What is the median score?

ANSWER: _____

31) Which sentence is true?

A All circles have three sides.
B The diameter of a circle is bigger than its radius.
C All circles have a volume.
D The cirucmference of a circle is 5 times bigger than its radius.
E The radius of a circle is bigger than its diameter.

32) If 6 out of every 10 sheep on a farm are male, what is the probability that a sheep picked at random is female?

A ⅕
B ⅘
C ⅗
D ⅖
E ¼

33) If 30% of *g* is 70, what is 15% of *g*?

A 105
B 32.5
C 35
D 18
E 62.5

34) On a pictograph, the symbol ♡ represents 7 million people.

How many people are represented by the following?

A 22,000,000
B 23,500,500
C 17,500,000
D 28,250,000
E 24,500,000

35) Sally has a piece of string that is 200 cm long. She cuts off 6 pieces, each *x* cm long. Which expression shows the length of string remaining in cm?

A 200
B 6 × *x* × 200
C 200 - 6*x*
D 200 - *x* - *x* - *x* - *x* - *x*
E 6*x* -200

36) The ratio of 1.2 to 1 is equivalent to which of the following?

A 8 to 6
B 6 to 5
C 4 to 3
D 2 to 1
E 12 to 11

37) The set of numbers T consists of all the factors of 36.
The set of numbers S consists of all the factors of 20.
How many numbers are in both sets?

A One
B Two
C Three
D Four
E Five

38) Paul uses 40 litres of petrol for every 90 miles he drives.
How many litres of petrol will he use to drive 315 miles?

ANSWER: _____

39) Figure A consists of three identical shapes, each with an area of 34.657 cm^2.
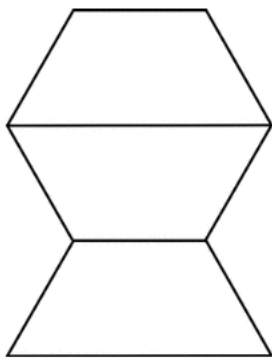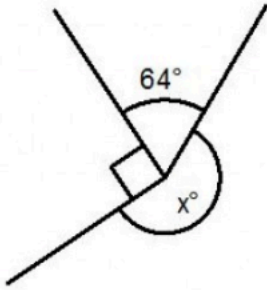What is the total area of Figure A?

Figure A

ANSWER: _____

40) In a class of 30 boys, every second boy had black hair.
How many boys had black hair?

A 30 ÷ 3
B 30 × ½
C 20 × 0.7
D 30 ÷ ⅔
E 30

41) Calculate angle x.

ANSWER: _____

42) Three consecutive odd numbers add up to 33.
What is the first number?

A 12
B 13
C 10
D 11
E 9

43) David is three times as old as his brother was 2 years ago. In 4 years, his brother will
be 11. How old will David be next year?

A 9
B 13
C 16
D 15
E 14

44) The table below shows how many burgers were eaten by contestants in a burger-eating competition. 187 burgers were eaten in total.

Burgers	Contestants
1 burger	12
2 burgers	15
3 burgers	18
4 burgers	?
5 burgers	11

How many contestants ate exactly 4 burgers?

ANSWER: _____

45) How many of the following shapes have at least one angle greater than a right-angle?

regular pentagon
rectangle
parallelogram
rhombus
equilateral triangle

ANSWER: _____

46) Which one of these is the smallest?

A 0.33
B ⅔
C 35%
D ⅜
E ⅖

47) There are 18 passengers in a train carriage.
At the first stop, 6 passengers get on and 5 passengers get off.
At the second stop, 4 passengers get off and 1 passenger gets on.
At the third stop, 9 passengers get off and *d* passengers get on.
At the fourth stop, 10 passengers get on.
There are now 24 passengers in the train carriage.

What number does *d* represent?

ANSWER: _____

48) The perimeter of a rectangle is 24 cm.
Which of the following could not be the area of the rectangle?

A 40 cm^2

B 11 cm^2

C 27 cm^2

D 32 cm^2

E 20 cm^2

49) The area of the circle in the shape below is ⅗ of the area of the triangle.
What is twice the area of the triangle if the area of the circle is 45 cm^2?
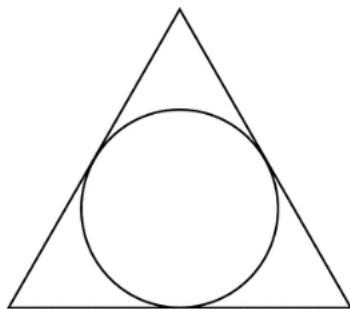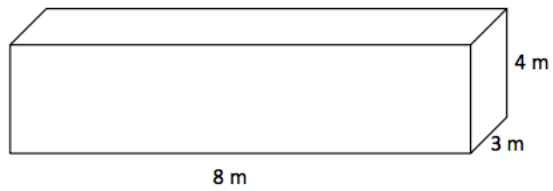

ANSWER: _____

50) This is a diagram of a swimming pool.
   If there are 72,000 litres of water in the pool, what height does the water reach?
   Give your answer in metres.
   1 litre = 1,000 cm^3

NOT DRAWN TO SCALE

4 m

3 m

8 m

ANSWER: _____