1) The value of the digit 6 in the numeral 3164 is

(A) 6

(B) 10

(C) 60

(D) 600

2) 314_5 converted to base 10 is

(A) 3140

(B) 1570

(C) 84

(D) 8

3) How many prime numbers lie between 0 and 10?

(A) 5

(B) 4

(C) 3

(D) 2

4) Which of the following is equal to

$19 - 5 - 7 + 3$?

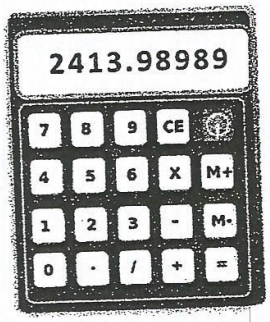
(A) $(19 - 5) - (7 + 3)$

(B) $19 - (5 - 7 + 3)$

(C) $19 - (5 - 7) + 3$

(D) $19 - (5 + 7) + 3$

5) Approximate the number 2413.98989, as shown on the calculator, to 4 significant figures.



(A) 2413

(B) 2413.000000

(C) 2413.9899

(D) 2414

6) Margaret got an increase in salary from \$150 per day to \$200 per day. The percentage increase is

(A) 20 %

(B) 25 %

(C) 33 ⅓ %

(D) 50 %

7) The solution to the equation $4x - 5 = 14x - 15$ is $x =$

(A) -2

(B) -1

(C) 1

(D) 2

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15) Which of the following set of ordered pairs represents the function, $f(x) = x^2 + 1$?

(A) { (1, 3) , (2, 5) , (3, 7) }

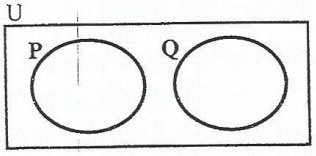
(B) { (1, 1) , (2, 4) , (3, 9) }

(C) { (1, 2) , (2, 5) , (3, 10) }

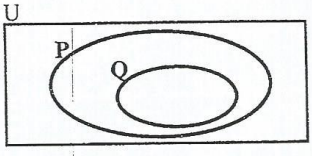
(D) { (1, 2) , (2, 3) , (3, 4) }

16) If P = {1, 2, 3, 4, 5, 6} and Q = {2, 4, 6, 8}, then which of the Venn diagrams below represents the sets P and Q?

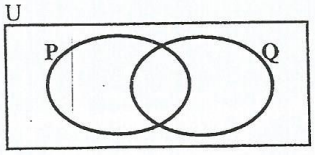
(A)



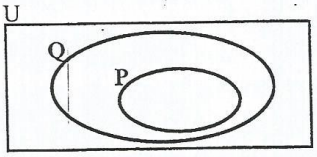
(B)



(C)

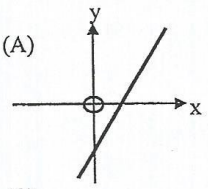


(D)

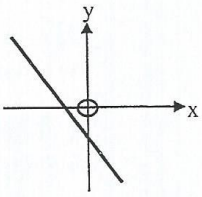


17) Which diagram shown below is a likely representation of $y = 2x - 1$?

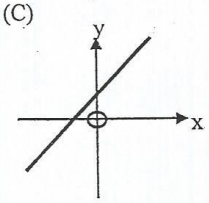
(A)



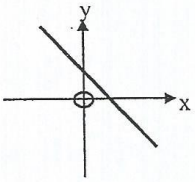
(B)



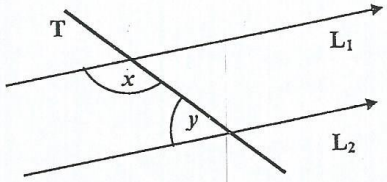
(C)



(D)



18) The diagram below shows two parallel lines, L_1 and L_2, intersected by the straight line T.



Angles x and y are called

(A) alternate angles
(B) co-interior angles
(C) corresponding angles
(D) vertically opposite angles

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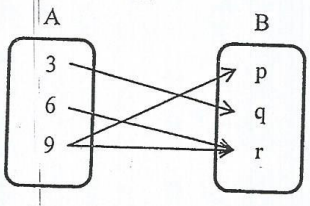
Questions 19 and 20 are based on the information presented on the arrow diagram below.

The diagram below shows a relation between two sets A and B.



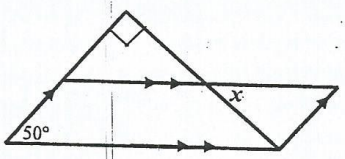
19) The mapping shown in the relation above is

(A) one to one
(B) one to many
(C) many to one
(D) many to many

20) In the arrow diagram above, the image of 3 is equal to

(A) p
(B) q
(C) r
(D) s

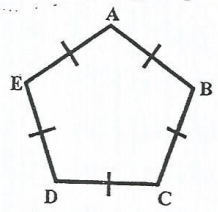
21)



What is the size of angle x in the diagram above?

(A) 40°
(B) 50°
(C) 70°
(D) 140°

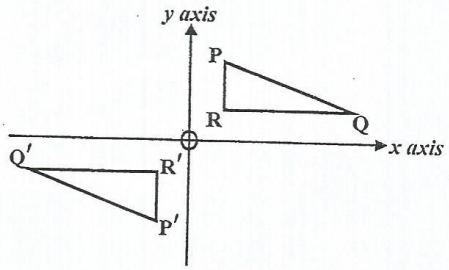
22) ABCDE is a regular pentagon.



The size of each interior angle is

(A) 95°
(B) 100°
(C) 108°
(D) 110°

23) The diagram below shows a triangle PQR and its image P′Q′R′ under a transformation.



Which is the transformation used?

(A) reflection in the x axis
(B) reflection in the y axis
(C) 90° clockwise rotation about the origin
(D) 180° clockwise rotation about the origin

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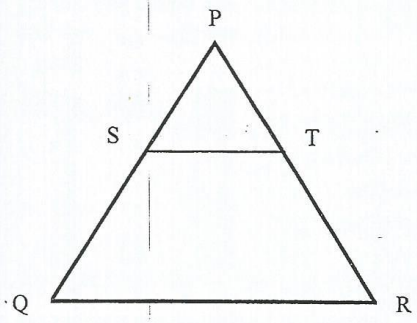
24) What are the co-ordinates of the image of the point (0, -1), under a reflection in the x-axis?

(A) (0, 1)
(B) (0, -1)
(C) (1, 0)
(D) (-1, 0)

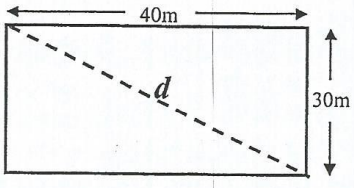
25) In the diagram below, **not drawn to scale,**



Triangle PQR is an enlargement of triangle PST. If PS = 4 cm and SQ = 8 cm, the scale factor is

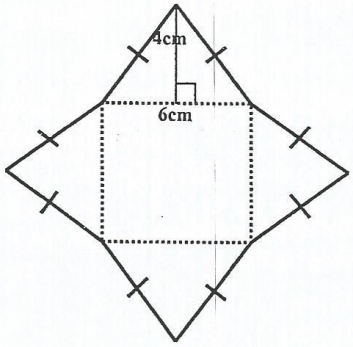
(A) 8
(B) 4
(C) 3
(D) 2

26) A rectangular field measures 40m by 30m as shown in the diagram below. What is the length, in m, of the diagonal *d*?



(A) 50
(B) 70
(C) 120
(D) 1200

27) The diagram shows the net of a square based pyramid.



The net is made up of a 6cm by 6cm square and four isosceles triangles with base 6cm and height 4cm.

What is the **perimeter,** in cm, of the net of the pyramid?

(A) 40
(B) 68
(C) 80
(D) 116

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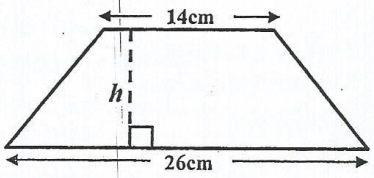
28)

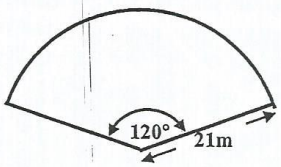


The area of the trapezium above is $200cm^2$.

The height h, in cm, of the trapezium is

(A) 5
(B) 8
(C) 10
(D) 12

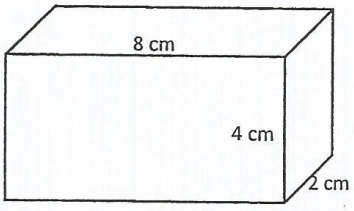
29) The diagram below shows a flowerbed in the shape of a sector of radius 21m and sector angle 120°.



What is the **perimeter**, in m, of the flower bed ?

(A) 44
(B) 86
(C) 162
(D) 462

30)



What is the volume, in cm^3, of the largest **cube** that can be cut from the above cuboid?

(A) 8
(B) 32
(C) 64
(D) 72

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31) The table below shows how the electricity bill is calculated by a company.

Number of electricity units used	Charge
Up to 400	25 cents per unit
More than 400	40 cents per unit

In a household with a previous reading of 5400 units and a current reading of 6000 units, what will be the expected bill in total?

(A) $ 150.00
(B) $ 180.00
(C) $ 240.00
(D) $ 600.00

32) John works 8 hours a day at a rate of $25.00 per hour. The overtime rate is doubled the normal rate. On a particular day, he works 15 hours.
The **overtime** pay for that day is

(A) $ 200.00
(B) $ 350.00
(C) $ 375.00
(D) $ 550.00

33) Mr. Smith borrows $9000.00 from the bank at 6% per annum simple interest. The loan is to be repaid in 4 years. What will be the amount of each monthly installment Mr. Smith will be required to pay?

(A) $ 45.00
(B) $ 180.00
(C) $ 187.50
(D) $ 232.50

34) Jerry runs a distance of 3 km in 24 minutes. How long will he take to run 8 km, if he runs at the same rate?

(A) 64 mins
(B) 60 mins
(C) 35 mins
(D) 27 mins

35) The mean of the numbers 4 , x and 14 is 10. The value of x is

(A) 9
(B) 10
(C) 12
(D) 18

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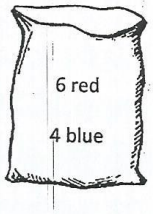
36) A bag contains colored balls.



Mark chooses a ball at random from the bag. What is the probability of Mark choosing a blue ball?

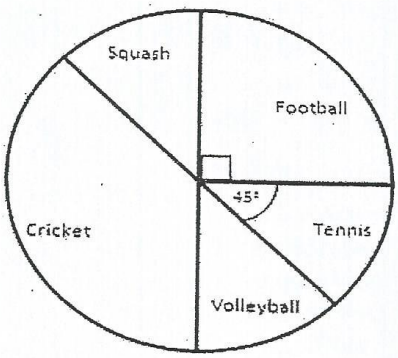
(A) $\frac{2}{5}$

(B) $\frac{1}{2}$

(C) $\frac{3}{5}$

(D) $\frac{2}{3}$

37)



The pie chart shows the favourite sport of students in a school. The fraction that prefers cricket is

(A) $\frac{1}{2}$

(B) $\frac{3}{8}$

(C) $\frac{1}{3}$

(D) $\frac{1}{4}$

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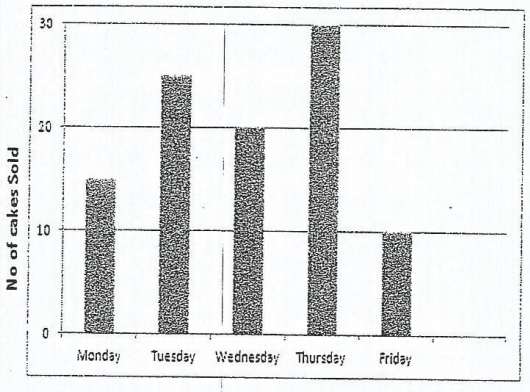
Questions 38 and 39 are based on the information presented in the Bar Graph below.

The diagram below represents a bar graph showing the number of cakes sold at a bakery from Monday to Friday of a week.



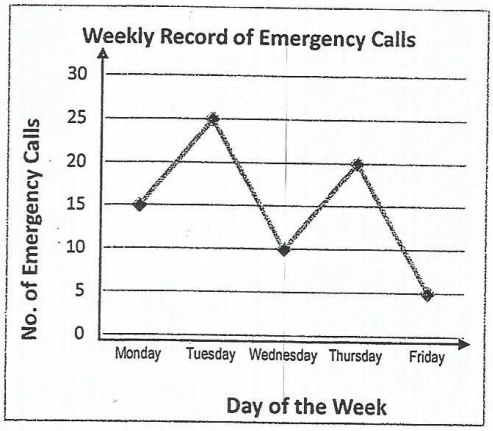
38) On which two consecutive days was there a difference of 5 cakes sold?

(A) Mon and Tue
(B) Tue and Wed
(C) Wed and Thu
(D) Thu and Fri

39) What is the difference between the most cakes sold on a day and the least cakes sold on a day?

(A) 20
(B) 15
(C) 10
(D) 5

40) The line graph below shows the week's record of emergency calls made to Rapid Response Ambulance Services.



The **correct weekly average** for the number of calls made is 19.

It was discovered that the wrong number of calls was recorded on the graph on Friday.

What was the correct number of calls made to Rapid Response Ambulance Services on Friday?

(A) 10

(B) 15

(C) 20

(D) 25

END OF TEST