शिक्षा का अधिकार

सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें

ANNUAL EVALUATION - 2018
MATHEMATICS - VIII

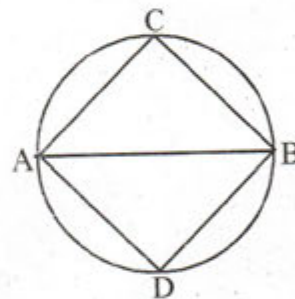Time: $1\frac{1}{2}$ Hours   Score : 40

Instructions:

♦ Read the instructions carefully before answering each question.

♦ Necessary steps should be written against each answer.

♦ First 15 minutes is cool-off time.

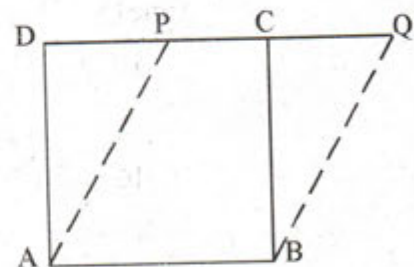Answer any <u>three</u> from questions 1 to 4. Each carries 2 scores.

$(3 \times 2 = 6)$

1. a) $(x + 1)(y + 1) = xy + (x + y) +$ ....

    b) $51 \times 61 = 3000 +$ ....

2. In the figure AB is the diameter of the circle
    C and D are two points on the circle

    a) What is the measure of $\angle C$?

    b) What is $\angle CAD + \angle CBD$?

3. a) $5 - 10 =$ ....

    b) $-5 - 10 =$ ....

4. In the figure ABCD is a square of side 5 cm.

    a) What is the area of the square ABCD?
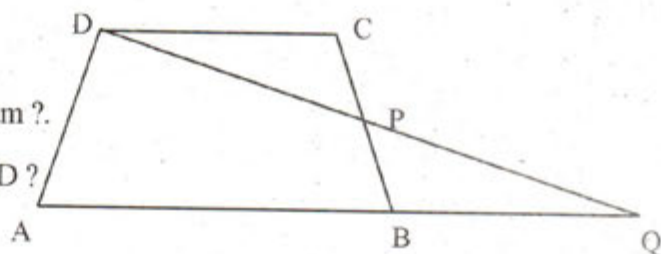
    b) What is the area of the parallelogram ABQP?

Answer any <u>four</u> from questions 5 to 10. Each carries 3 scores.

$(4 \times 3 = 12)$

5. In the equation $y = x^2 + 5x + 4$, if $x = -1$, What is the value of y?

6. ABCD is a trapezium. P is the mid point of BC. AB = 12 cm, DC = 8cm. The distance between AB and CD is 6 cm.

   a) What is the area of the trapezium ?.

   b) What is the area of triangle AQD ?

7. In the figure DP is perpendicular to AB ,

   AB = 10 cm, DP = 6 cm

   a) Find the area of triangle ABD.

   b) If area of triangle BCD is half the area of triangle ABD, What is the area of the quadrilateral ABCD?

   c) If the distance from A to BD is 'a' and that from C to BD is 'b' then what is $a : b$?
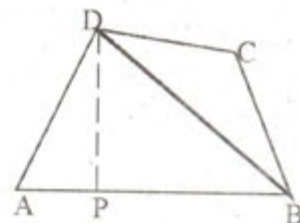
8. The weights (in kilogram) of 30 students are given below. Taking the first class as 30 - 40, prepare a frequency table.

   41, 50, 41, 31, 40, 59, 48, 56, 46, 34

   42, 67, 75, 60, 45, 39, 45, 64, 45, 63

   48, 55, 56, 52, 52, 47, 58, 52, 41, 47

9. a) What is the sum of the inner and outer angles at the vertex of a polygon ?

   b) If the outer angle is 20 more than thrice the inner angle, what is the measure of the inner angle ?

10. The table below shows the time taken by 30 students to complete a long distance race.

| Time (Minutes)	Number of children
10 – 13	2
13 – 16	5
16 – 19	12
19 – 22	8
22 – 25	3

   a) How many students have taken below 13 minutes to complete the race ?

   b) How many students have taken 19 minutes or above to complete the race ?

   c) If only one student took 16 minutes to complete the race, then how many of them taken between 16 and 19 minutes to complete the race ?

Answer any **Four** from questions 11 to 16. Each carries 4 scores.

$(4 \times 4 = 16)$

11. a) Length of the diagonal of a square is 5 cm. What is its area ?.

   b) Draw a square of area $4\frac{1}{2}$ square centimeters.

12. In the equation $z = \dfrac{x}{y} - \dfrac{y}{x}$ if $x = 10$, and $y = -5$, What will be the value of z ?

13. Ramu and Venu started a business. Ramu invested 50000 rupees and Venu invested 1,50000 rupees. If they got 20% profit in a year, then

   a) What is the total profit ?

   b) What is the ratio of their investments?

   c) If the profit is dividing according to the ratio of their investments, how much amount each will get ?

14. In the figure, PQRS is rhombus. Its diagonals meet at O. The midpoints of OP, OQ, OR and OS are joined to get the quadrilateral ABCD.
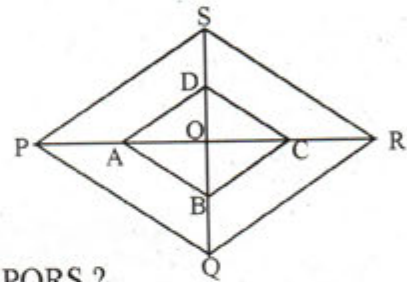
   a) Write the suitable name of the quadrilateral ABCD.

   Justify your answer.

   b) If PR = 12 cm, QS = 8 cm, then what is the area of PQRS ?

   c) What is the area of the quadrilateral ABCD ?

15. The length of the sides of a parallelogram are 5 cm, and 3 cm and length of one of its diagonals is 7 cm. Draw the parallelogram.

16. The table below shows the daily income of 90 house holds in a locality.

Daily income (Rs.)	Number of house holds
500 – 550	10
550 – 600	20
600 – 650	30
650 – 700	20
700 – 750	10

   Draw a histogram.

Read the following mathematical concept and answer the questions that follow. Each question carries one score

$(6 \times 1 = 6)$

17. $(-1)^2$ $= (-1) \times (-1)$ $= 1$

$(-1)^3$ $= (-1)^2 \times (-1)$

$= 1 \times -1$ $= -1$

$(-1)^4$ $= (-1)^3 \times (-1)$

$= -1 \times -1$ $= 1$

$(-1)^5$ $= (-1)^4 \times (-1)$

$= 1 \times -1$ $= -1$

What do you see ? We get the value of even powers as 1 and the odd powers as –1.

That is if n is odd $(-1)^n = -1$, if n is even $(-1)^n = 1$.

Answer the following questions

a) $(-1)^{2018}$ = ...

b) $(-1)^{2018} + (-1)^{2019}$ = ...

c) $(-1)^5 \times (-1)^7$ = ...

d) $\dfrac{(-1)^5}{(-1)^6}$ = ...

e) $-1 + (-1)^5 + (-1)^6$ = ...

f) $\dfrac{(-1)^5}{(-1)^5}$ = ...