

Quarterly Examination - 2017-2018

Maths

Time : 2 Hrs. + 15 min.

F. M. : 80

Std. : VII

SECTION A (1 x 10 = 10)

- I. 1. The cardinal no of a singleton set is _____
2. The no of subsets of a set containing 3 elements is _____
3. What is the square root of $3^4 \times 9^2$
4. _____ $\times -5x^2y = -125x^3y^2$
5. $18 \frac{2}{5} - 3 \frac{2}{5} + 1 +$ _____
6. $\{a, b, c\}$ and $\{4, 5, 6\}$ are _____ sets (equal or equivalent)
7. The difference of $10xy$ from $20xy$ is _____
8. For any set A, $A \cap A' =$ _____s
9. The complement of universal set is _____
10. The supplementary angle of 32° is _____

Write answer for the following :

(1x5=5)

1. Write in Ruster form
 $A = \{x : x \text{ is a composite No : less than } 10\}$
2. Find the numerical coeff. of the product of $5ab$, $-3a^2b$ and $2ab^2$.
3. $L1 = \{x : x \in W, x \leq 10\}$
 $A = \{x : x \in W \text{ and } x \text{ is an even no}\}$
Find A'
4. Find the S.I. for a sum of money Rs. 1500 for 2 years at 10% per year.
5. 15 envelopes cost Rs. 45. How many envelopes can be brought for Rs. 360?

Write true or false :

(5)

1. Complementary angle of 20° is 75° .
2. All equal sets are equivalent
3. $15a^2b$ and $51 ab^2$ are like terms.
4. Empty set is a subset of every set A
5. If a set has 'n' elements then no. of proper subsets will be 2^n .

SECTION B (10X2 = 20)

- $a = \{x : x \in \mathbb{N}, 3 \leq x \leq 10\}$ $B = \{x : x \in \mathbb{N}, 2 \leq x \leq 6\}$
find $A \cup B$, $A \cap B$
- What must be added to $-20pq + 5p - 7r$ to get $36pq - 10p + 8r$
- Multiply $(5x - \frac{1}{2})(5x + \frac{1}{2})$
- Write all proper subsets of $\{p, q\}$
- Find the square root of 7396.
- Find S.P. when M.P. = 575/- and D = 15%
- If $\frac{4}{5}$ m cloth costs Rs. 36 find the cost of $2\frac{1}{8}$ m of cloth
- If Rs. 4000 amounts to Rs 4500 in 2 years find how much would it amount in 5 years. at the same rate of interest.
- Add $3a - 5b + 7c$ and $-15a + 10b - 2c$.
- Find the cardinal no. of following sets
 - $A =$ set of letters of the word "student"
 $B =$ set of prime Nos < 15

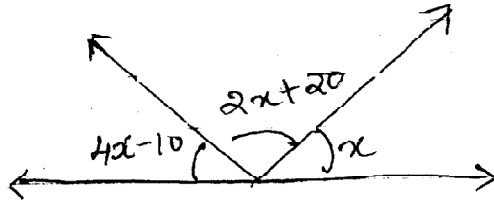
SECTION C

- A and B together can do a piece of work in 8 days but A alone can do it in 12 days. (4)
How many days B alone will take to do the same work.
- $\varepsilon = \{ \text{whole nos} : \leq 12 \}$
 $A = \{ \text{prime No} : < 10 \}$ $B = \{ \text{factors of 12} \}$
Find $A \cup B$, $A \cap B$, A' , B' , $n(A \cup B)$, $n(B')$ (3)
- Multiply $x^2 - x + 1$ by $(x - 1)$ (3)
- If 2 adjacent sides of a rectangle are $5x + 8y$ and $4x - 2y$. Find its area and perimeter. (4)
- A person bought a camera for Rs. 1280. Find S.P. if it is sold at
 - 15% profit and
 - 10% loss.(4)
- What sum of money will amount to Rs. 6860 in 2 years 6 months at 9% p.a. S.I. (4)
- From the sums of $5b^2 + 8c^2 - 13a^2$ and $-10b^2 + 4c^2 + 20a^2$ (4)
subt ; $8b^2 - 10a^2 + 7c^2$

SECTION D (Write reasons)

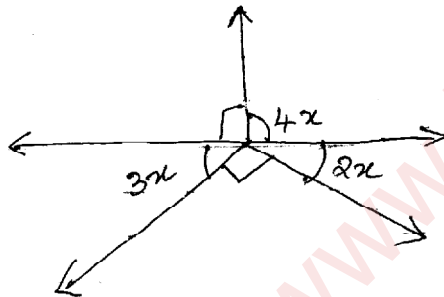
1. Find the value of x

(3)



2. Find the value of x

(3)



3. Draw a line segment $AB = 8$ cm. Mark a point 'X' on it. Draw a perpendicular to AB at 'X'. (5)

4. In the given figure find the value of Y .

(3)

