

PAWAN WAGH ACADEMY

Class- 10th

First Term Examination

Marks - 40

Mathematics - 1

Q.No.1 (A) Solve the following questions (Any Four)

4 Marks

1) $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$A = \{2, 4, 6, 8, 10\}$ $B = \{1, 3, 5, 7, 8, 10\}$ find $A \cup B$

2) Multiply $(m^2 - 5) \times (m^3 + 2m - 2)$

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3) find the reduced form of the ratio of the first quantity to second quantity $3.8 \text{ kg}, 1900 \text{ gm}$

4) for class interval 20-25, write the lower class limit and the upper class limit.

5) Rationalize the denominator of $\frac{3}{2\sqrt{7}}$

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Q.No.1 (B) Solve the following questions (Any two)

4 Marks

1) If $n(A) = 7$, $n(B) = 13$, $n(A \cap B) = 4$ then $n(A \cup B) = ?$

2) Divide $(2m^2 - 3m + 10) \div (m - 5)$ by synthetic division method. Write the quotient and the remainder.

3) Find the median of the data 21, 23, 25, 30, 36, 42, 32, 43, 40, 33

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Q.No.2 (A) Choose the correct alternative

4 Marks

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1) The point of intersection of the graphs $x + y = 4$ and $2x - y = 2$ is point —

- a) $(-2, 2)$ b) $(2, -2)$ c) $(-2, -2)$ d) $(2, 2)$

2) A die is rolled. What is the probability of getting an even number on the upper face?

- a) $\frac{1}{4}$ b) $\frac{1}{2}$ c) $\frac{1}{3}$ d) $\frac{3}{4}$

3) One of the roots of equation $x^2 + mx - 5 = 0$ is 2 find m

- a) -2 b) $-\frac{1}{2}$ c) $\frac{1}{2}$ d) 2

4) for simultaneous equations in variable x and y $D_x = 49$, $D_y = -63$, $D = 7$ then what is x ?

- a) 7 b) -7 c) $\frac{1}{7}$ d) $-\frac{1}{7}$

Q.No.2 (B) Solve the following equations (Any two)

1) Solve the quadratic equations using formula method.

$$x^2 - 2x + 3 = 0$$

2) A two digit number is formed with digits 2, 3, 5, 7, 9 without repetition. what is the probability that the number formed is

i) An odd number ?

ii) A multiple of 5 ?

3) If two coins are tossed, find the probability of the following events.

i) Getting at least one head

ii) Getting no head

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4 Marks

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Q.No.3 (A) Complete the following activities (Any two)

Marks

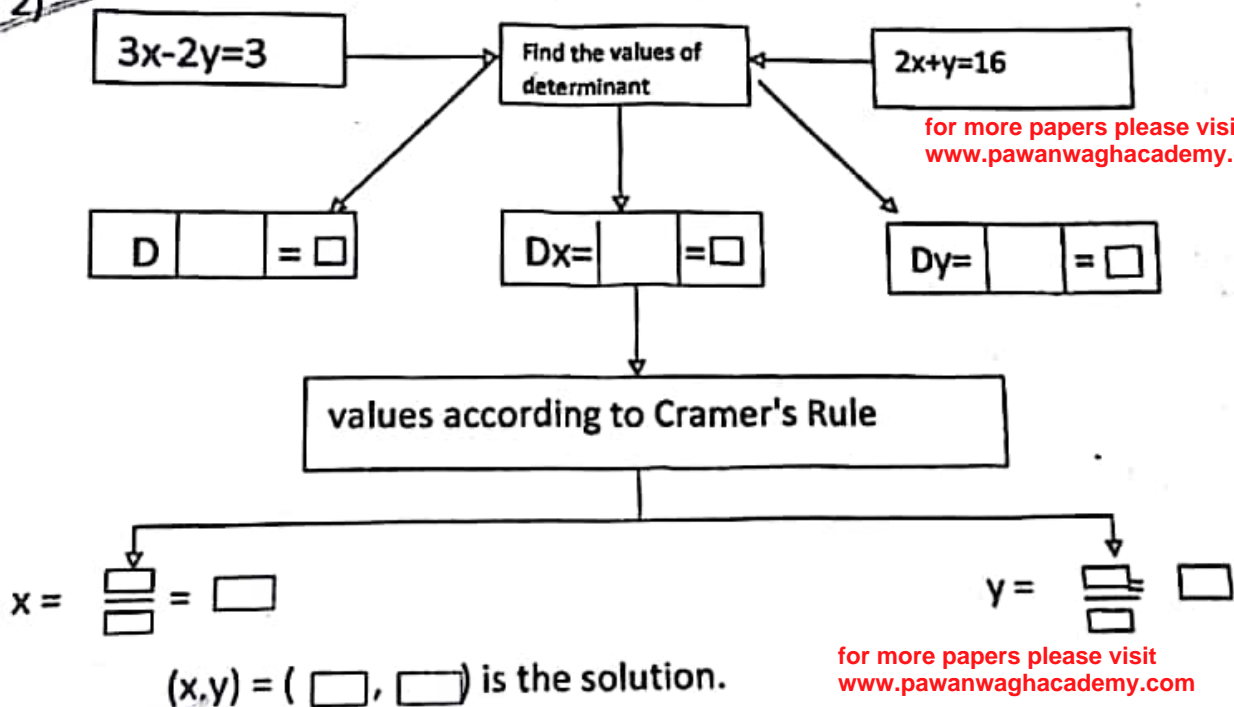
4 Marks

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1) Complete the following table

quadratic equation	general form	a	b	c
$x^2 - 4 = 0$				
$3x^2 + 2x = 0$				

2)



3) What will be the quadratic equation if $\alpha = 2$ $\beta = 5$ It can be written as

$$x^2 - (\square + \square)x + \square x \square = 0$$

that is $x^2 - \square x + \square = 0$

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Q.No.3 (B) Solve the following equations (Any two)

4 Marks

1) Three coins tossed simultaneously. Find the probability of the following

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events.

Event A- getting at most two tails

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Event B- getting head on the second coin

2) Two digit numbers are formed using digits 0, 1, 2, 3, 4, 5 without repetition of digits. Find the probability of the following events.

Event A- The number formed is divisible by 3

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Event B- The number formed is greater than 50

3) The sum of squares of two consecutive even natural number is 244.

Find the numbers.

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Q.No.4) Solve the following questions (Any three)

9 Marks

1) Solve the following quadratic equation by completing square method.

$$2y^2 + 9y + 10 = 0$$

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2) Solve the following equation using graphical method.

$$x + y = 4 ; \quad 2x - y = 2$$

3) Solve : $3a + 5b = 26$; $a + 5b = 22$

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Q.No.5) Solve the following questions (Any one)

4 Marks

1) Two dice are rolled simultaneously

Event A- The sum of the digit on the upper face is multiple of 6

Event B- The sum of the digit on the upper face is minimum 10

Event C- The same digit on both upper faces.

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2) Solve $\frac{27}{x-2} + \frac{31}{y+3} = 85$, $\frac{31}{x-2} + \frac{27}{y+3} = 89$

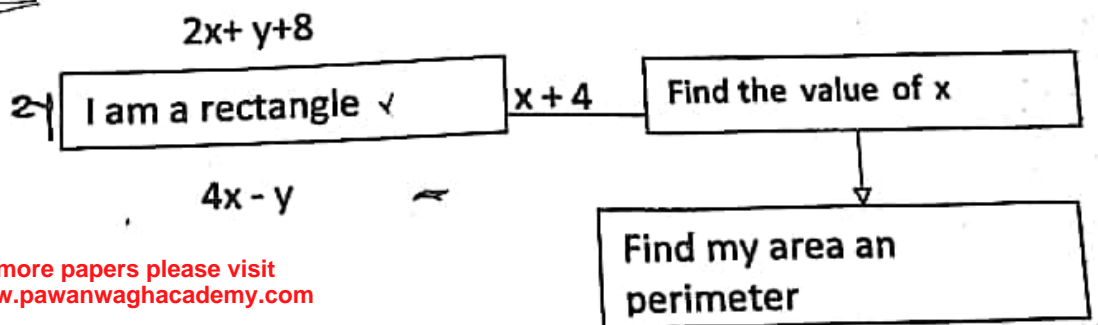
Q.No.6) Solve the following questions (Any one)

3 Marks

✓ 1) Solve the following equations using graph

$y = 2x + 2$, $y = 4x - 4$

2) Solve:



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