

GENERAL INSTRUCTION:

SECTION -A: Answer all questions. Each questions carries one mark.

SECTION- B: Answer any seven questions. Each question carries two marks.

SECTION - C: Answer any nine questions. Each question carriers three marks.

SECTION - D: Answer any five questions. Each question carries four marks.

SECTION - E: Answer any one questions. Each carrier four marks.

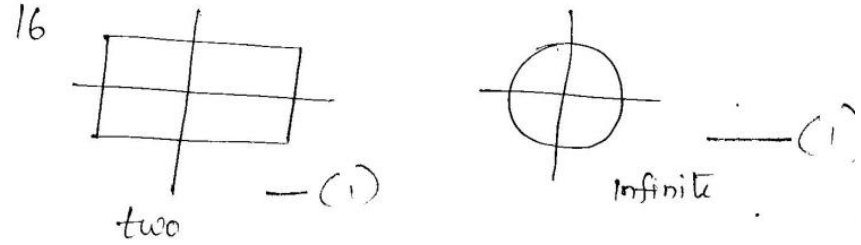
SECTION - A

I. Multiple choice questions:

15x1=15

- | | | |
|-----------------|-----------------|-------------|
| 1. 3 | 2. Equal | 3. 1 |
| 4. 43 | 5. Right angled | 6. (-4) |
| 7. All of these | 8. 80°, 10° | 9. Median |
| 10. 8 | 11. Two | 12. 20, -20 |
| 13. 40° | 14. 0 | 15. 360° |

II. Answer the following:



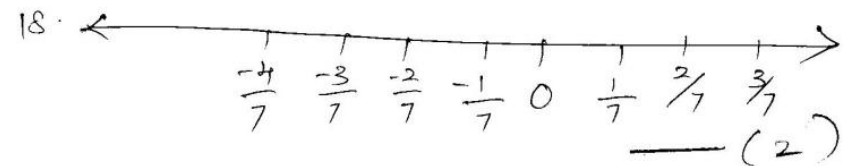
17. LHS | RHS

$$a - (-b) \quad ; \quad a + b$$

$$-3 - (-7) \quad ; \quad -3 + 7$$

$$-3 + 7 = 4 \quad ; \quad \frac{-3 + 7}{4} \quad \text{--- (1)}$$

LHS = RHS hence verified .



19. $m - 5 = 10 \quad ; \quad m = 6$

$$6 - 5 = 10 \quad \text{--- (1)}$$

$1 \neq 10$ No, it is not a solution

--- (1)

20 By exterior angle property,

$$y = 70 + 30 \quad \text{--- (1)}$$

$$y = 100^\circ \quad \text{--- (1)}$$

$$21 \quad 4ab - 3a + 5a + 6 \quad \text{--- (1)}$$

$$4ab + 2a + 6 \quad \text{--- (1)}$$

$$22 \quad AD = \text{median} \quad \text{--- (1)}$$

$$AE = \text{altitude} \quad \text{--- (1)}$$

$$23 \quad \frac{-8}{20}, \frac{-10}{25}, \frac{-12}{30} \quad \text{--- (2)}$$

$$24 \quad 2y - 6 = 5 \quad \text{--- (1)}$$

$$2y = 6 + 5$$

$$2y = 11 \quad \text{--- (2)}$$

$$\boxed{y = \frac{11}{2}} \quad \text{--- (2)}$$

Section - C

$$25 \quad b = 50^\circ \quad (\text{vertically opp. angles}) \quad \text{--- (1)}$$

$$a + 50 = 180 \quad (\text{Linear pair})$$

$$a = 180 - 50 \quad \text{--- (1)}$$

$$a = 130^\circ$$

$$a = c = 130^\circ \quad (\text{vertically opp. angles}) \quad \text{--- (1)}$$

$$26 \quad H^2 = \text{leg}^2 + \text{leg}^2 \quad \text{--- (1)}$$

$$7^2 = 3^2 + 4^2 \quad \text{--- (2)}$$

$$49 = 9 + 16 \quad \text{--- (2)}$$

$$49 \neq 25 \quad \text{--- (2)}$$

This will not form right triangle } ---

$$27 \quad \begin{array}{r} a^2 - 7ab + b^2 \quad \text{--- (1)} \\ -3a^2 + 8ab - 7b^2 \quad \text{--- (1)} \\ \hline -2a^2 + 1ab - 6b^2 \quad \text{--- (2)} \end{array}$$

$28 \quad \text{LHS}$ $18 \times [7 + (-2)]$ 18×5 $\frac{90}{90} \quad \text{--- (1)}$		RHS $(18 \times 7) + (18 \times -2)$ $126 + (-36)$ $\frac{90}{90} \quad \text{--- (1)}$
$\text{LHS} = \text{RHS} \quad \text{hence verified.}$		

$$29 \quad a) \quad \text{LCM} = 15 \quad \text{--- (1)}$$

$$\frac{-1}{3} \times \frac{5}{5} = \frac{-5}{15}$$

$$\frac{-5}{15} + \frac{7}{15} = \frac{2}{15} \quad \text{--- (1)}$$

$$4 = 100$$

29 b) $\frac{-5}{13} \times \frac{4}{4} = \frac{-4}{52} = \frac{-1}{13}$ (1)

30

$u + 100 = 180$ (Linear pair) — (1)

$u = 80^\circ$ — (2)

$70 + v = 100$ (exterior angle property) — (1)

$v = 30^\circ$ — (2)

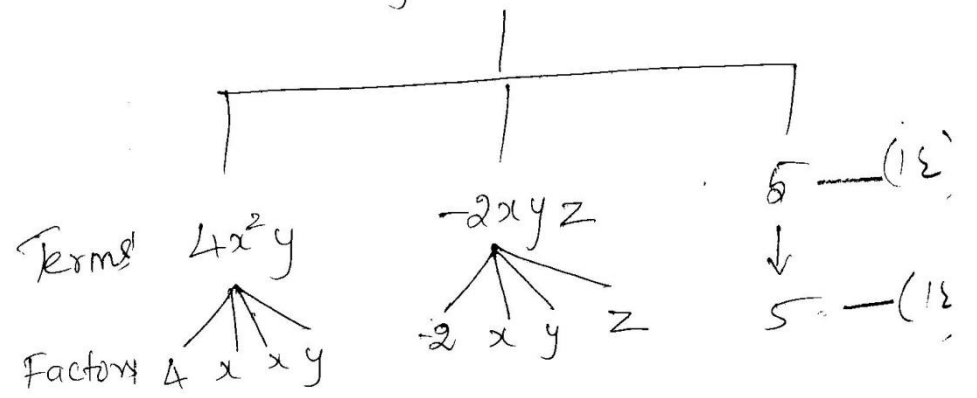
Value	LHS $3x-2$	RHS 7	Conclusion
$x=1$	$3(1)-2=1$	7	$1 \neq 7$ — (1)
$x=2$	$3(2)-2=4$	7	$4 \neq 7$ — (1)
$x=3$	$3(3)-2=7$	7	$7=7$ — (1)

$x=3$

	Order	angle
Square	4	$\frac{360}{4} = 90^\circ$ (1)
Rectangle	2	$\frac{360}{2} = 180^\circ$ (1)
Semicircle	1	$\frac{360}{1} = 360^\circ$ (1)

33

$4x^2y - 2xyz + 5$



34. $5(y+9) - 12 = 0$ —
 $5y + 45 - 12 = 0$ — (1)

$5y + 33 = 0$ — (1)
 $5y = -33$

$y = \left(\frac{-33}{5}\right)$ — (1)

$$39 \quad y = 110 \quad (\text{Vertically opp. angles}) \quad (1)$$

$$x + 110 = 180 \quad (\text{Linear pair}) \quad (1)$$

$$x = 70$$

$$x = z = 70 \quad (\text{Verti. opp. angles}) \quad (1)$$

$$t = y = 110 \quad (\text{Corresponding angle}) \quad (1)$$

$$40. \quad a) \text{ Students answer} \quad (1)$$

$$b) \quad \frac{0}{100} \quad (\text{Students answer}) \quad (1)$$

$$c) \quad \boxed{-5} + \boxed{-5} = (-10) \quad (\text{Students answer}) \quad (1)$$

$$d) \quad -1 \frac{3}{5}$$

Section - E

41 Rough diagram - 1

Main diagram - 2

Construction steps - 1