

12. $-2 \leq x < 3$
 x is an integer.

$$-2 \leq 1, 0, 1, 2$$

Write down all the possible values of x .

$$x = 1, 0, 1, 2$$

8.

$$2x^2 = 72$$

(a) Find a value of x .

$$2x^2 = 72$$

$$x^2 = \frac{72}{2}$$

$$x^2 = 36$$

$$x = 6 \dots\dots\dots$$

(b) Solve $4x + 1 = 2x + 12$

$$4x + 1 = 2x + 12$$

$$4x - 2x = 12 - 1$$

$$2x = 11$$

$$x = \frac{11}{2}$$

$$x = \dots\dots\dots 5.5 \quad (2)$$

(b) Solve

$$4(2x - 3) = 5x + 7$$

$$8x - 12 = 5x + 7$$

$$8x - 5x = 7 + 12$$

$$3x = 19$$

$$x = 6 \frac{1}{3}$$

x =

(3)

(b) $-1 \leq n < 4$

$-1, 0, 1, 2, 3$

n is an integer.

Write down all the possible values of n .

8. (a) Solve $13x + 1 = 11x + 8$

$$2x = 7$$

$$x = \frac{7}{2} = 3.5$$

12. (a) $5x^3 = 40$

Find the value of x .

$$x^3 = \frac{40}{5}$$

$$x^3 = 8$$

$$\begin{aligned} 1^3 &= 1 \\ 2^3 &= 8 \\ 3^3 &= 27 \end{aligned}$$

$$x = \dots\dots\dots$$

(2)

13. $-2 < n \leq 4$
 n is an integer.

(a) Write down all the possible values of n .

$-1, 0, 1, 2, 3, 4$

.....

(b) Solve the inequality $6x - 3 < 9$

$$6x < 9 + 3$$

$$6x < 12$$

$$x < \frac{12}{6} \quad x < 2$$

15. k is an integer such that $-1 \leq k < 3$

(a) List all the possible values of k .

-1 0 1 2

$5y \geq 10$ $y \geq 2$

.....

(b) Solve the inequality $\textcircled{6y} \geq y + 10$

7. (a) Solve

$$3(2t - 4) = 2t + 12$$

(b) Solve

$$\frac{29-x}{4} = x+5$$

A

$$29-x = 4(x+5)$$

$$29-x = 4x+20$$

$$29-20 = 4x+x$$

$$9 = 5x \quad x = \frac{9}{5} = 1.8$$

10 m is an integer such that $-2 < m \leq 3$

(a) Write down all the possible values of m .

$-1, 0, 1, 2, 3$

(b) Solve $7x - 9 < 3x + 4$

$$7x - 3x = 4 + 9$$

$$4x = 13 \quad x = \frac{13}{4}$$

$$x = 3\frac{1}{4}$$

(b) Solve $\frac{5w + 8}{3} = 4w + 2$ $3(4w + 2)$

$$5w + 8 = 12w + 6$$

$$-6 - 8 = 12w - 5w$$

$$-14 = 7w$$

$$w = -2$$

15. (a) List all the possible integer values of n such that

$$-2 \leq n < 3$$

$$-2 \quad -1 \quad 0 \quad 1 \quad 2$$

.....
(2)

(b) Solve the inequality

$$4p - 8 < 7 - p$$

$$5p < 15 \quad p < 3$$

11. (a) Solve $6x - 7 = 38$

$$6x = 38 + 7$$

$$6x = 45$$

$$x = \frac{45}{6}$$

$$7.5$$

$x = \dots\dots\dots$

(b) Solve $4(5y - 2) = 40$

$$20y - 8 = 40$$

$$20y = 48$$

$$y = \frac{48}{20}$$

$$y = \frac{24}{10}$$

$y = \dots\dots\dots$

15. $-4 < n \leq 1$
 n is an integer.

$$y = 2.4$$

- (a) Write down all the possible values of n .

$$-3 \quad -2 \quad -1 \quad 0 \quad 1$$

.....

- (b) Solve $3x - 2 > x + 7$

$$\begin{aligned} 3x - x &> 7 + 2 \\ 2x &> 9 \\ x &> \frac{9}{2} \end{aligned}$$

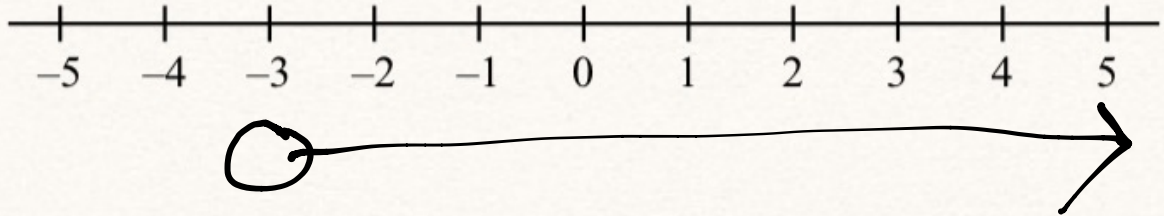
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15. (a) $x > -3$

$x > 4.5$

Show this inequality on the number line.

$x > -3$



(b) Solve the inequality $7y + 36 \leq 8$

$7y \leq 8 - 36$

$7y \leq -28$

(b) Solve $4(2x - 1) = 3x - 19$

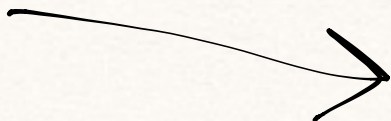
$$8x - 4 = 3x - 19$$

$$8x - 3x = -19 + 4$$

$$5x = -15$$

$$y \leq -\frac{28}{7} \quad (2)$$

$$y \leq -4$$


$$-3$$

$$x = \dots\dots\dots$$

(3)

(c) Solve $\frac{y+4}{5} = 30$

$$y + 4 = 150$$

$$y = 146$$

(b) Solve $4(2x - 1) = 3x - 19$

$$8x - 4 = 3x - 19$$

$$5x = -15$$

$$x = -3$$

$$x = \dots\dots\dots$$

(c) Solve $\frac{y+4}{5} = 30$

$$y+4 = 5 \times 30$$

$$y+4 = 150$$

$$y = 146$$

4. (a) Expand

$$4(x - 3)$$

$$4x - 12$$

.....
(1)

(b) Solve

$$4t + 1 = 19$$

$$4t = 18$$

$$t = \frac{18}{4} =$$

$$4.5$$

$t =$
(2)

(Total 3 marks)