

1.5 Inequalities WS

Solve each equation.

1) $-4x^{\frac{6}{5}} = -256$

$x = \pm 32$

2) $70 = 6 + x^{\frac{3}{2}}$

$x = 16$

3) $3 + (m - 28)^{\frac{3}{2}} = 515$

$m = 92$

4) $-3m^{\frac{1}{3}} = -12$

$m = 64$

5) $(3x - 8)^{\frac{3}{2}} = 64$

$x = 8$

6) $(64p)^{\frac{2}{3}} = 16$

$p = \pm 1$

7) $(4 - 15x)^{\frac{3}{2}} = 512$

$x = -4$

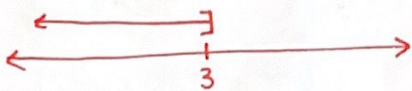
8) $(b - 16)^{\frac{3}{2}} + 6 = 349$

$b = 65$

Solve each inequality and graph its solution. Write the solution in set-builder notation.

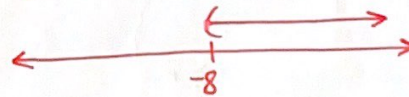
9) $-179 \leq -n - 8(-2 + 8n)$

$\{n \mid n \leq 3\}$



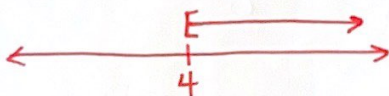
10) $-84 < -2(-5x + 2)$

$\{x \mid x > -8\}$



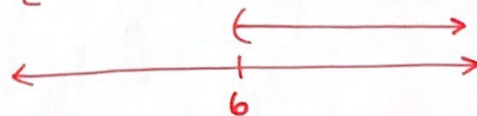
11) $-120 \geq 8(1 - 4n)$

$\{n \mid n \geq 4\}$



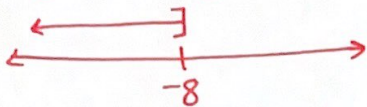
12) $7r - (3 - 8r) > 87$

$\{r \mid r > 6\}$



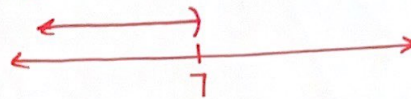
$$13) -6n - 5(6 - 7n) \leq -262$$

$$\{n \mid n \leq -8\}$$



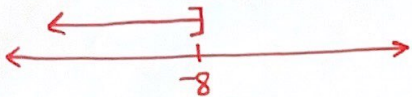
$$14) 86 > -7(-5 - p) + 2$$

$$\{p \mid p < 7\}$$



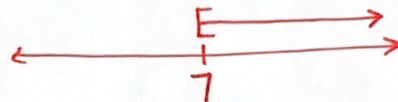
$$15) -2(8 + 6r) + 5 \geq 85$$

$$\{r \mid r \leq -8\}$$



$$16) 5(-3a - 1) - 6 \leq -116$$

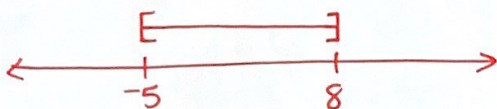
$$\{a \mid a \geq 7\}$$



Solve each compound inequality and graph its solution.

$$17) 2x - 9 \geq -19 \text{ and } 4x - 5 \leq 27$$

$$\{x \mid -5 \leq x \leq 8\}$$



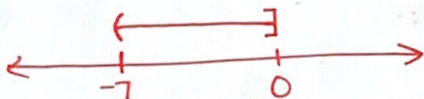
$$18) 7 + 4n \geq 31 \text{ or } 3n + 6 \leq 0$$

$$\{n \mid n \geq 6 \text{ or } n \leq -2\}$$



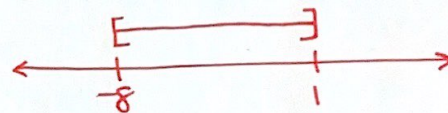
$$19) 1 + 7x \leq 1 \text{ and } -7x + 7 < 56$$

$$\{x \mid -7 < x \leq 0\}$$



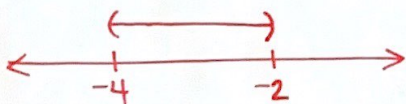
$$20) -3 \leq 5 + n \leq 6$$

$$\{n \mid -8 \leq n \leq 1\}$$



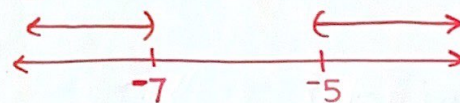
$$21) -37 < 8n - 5 < -21$$

$$\{n \mid -4 < n < -2\}$$

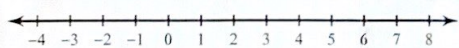


$$22) 10 - 10x < 60 \text{ or } -5x - 8 > 27$$

$$\{x \mid x > -5 \text{ or } x < -7\}$$



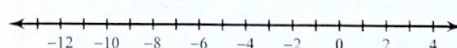
$$23) 7 - 5n \leq -7n + 9 \text{ and } 7 + 2n \geq 7 - 3n$$



$$\{n \mid 0 \leq n \leq 1\}$$



$$24) -2x + 10 < 10 + 5x \text{ or } 6x + 2 < 5x - 6$$



$$\{x \mid x > 0 \text{ or } x < -8\}$$

