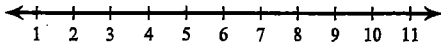


7.1 Linear Inequalities

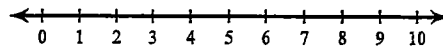
Date _____ Period _____

Solve each inequality and graph its solution. Answer #1-6 using set notation and answer #7-12 using interval notation.

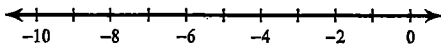
1) $8 \leq 8a - 7a$



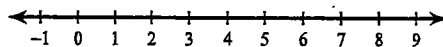
2) $1 + 4p - 3p > 4$



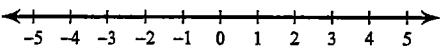
3) $-11 \geq 3n + 1 - n$



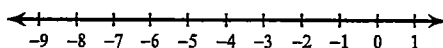
4) $13 \leq b + 6 + 6b$



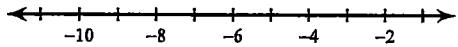
5) $-18 + 3n \geq -3(n+8)$



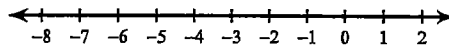
6) $7k - 40 < 5k + 2(6k - 5)$



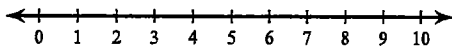
$$7) 4(-4k - 3) \geq 36 - 4k$$



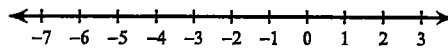
$$8) 3(4p + 6) \geq 8 + 2p$$



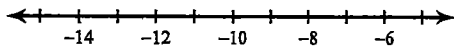
$$9) 30 - 6p < -2(p - 7)$$



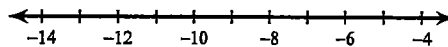
$$10) -3(4x - 3) \leq 25 - 8x$$



$$11) -p - 2 < -2(p + 5)$$



$$12) -3v - (2 - 4v) \geq -3v - 26$$



Solve the following inequalities algebraically. Answer in both set notation and interval notation.

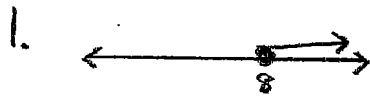
$$13) \frac{x+1}{2} < \frac{x+2}{3}$$

$$14) \frac{2-x}{2} \geq \frac{2x+1}{4}$$

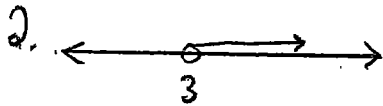
$$15) \frac{x+2}{4} > \frac{x-1}{5} + 1$$

$$16) \frac{2-3x}{2} + \frac{2}{3} \leq \frac{3x-2}{6}$$

Answers:



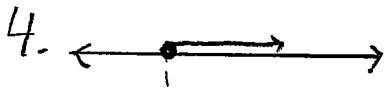
$$\{a \mid a \geq 8, a \in \mathbb{R}\}$$



$$\{p \mid p > 3, p \in \mathbb{R}\}$$



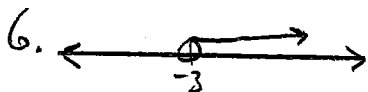
$$\{n \mid n \leq -6, n \in \mathbb{R}\}$$



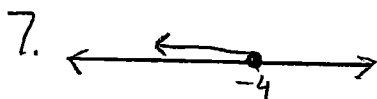
$$\{b \mid b \geq 1, b \in \mathbb{R}\}$$



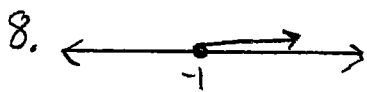
$$\{n \mid n \geq -1, n \in \mathbb{R}\}$$



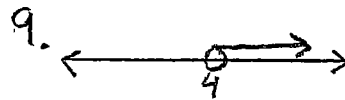
$$\{k \mid k > -3, k \in \mathbb{R}\}$$



$$(-\infty, -4]$$



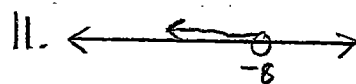
$$[-1, \infty)$$



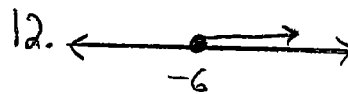
$$(4, \infty)$$



$$[-4, \infty)$$



$$(-\infty, -8)$$



$$[-6, \infty)$$

13. $\{x \mid x < 1, x \in \mathbb{R}\}$
 $(-\infty, 1)$

14. $\{x \mid x \leq \frac{3}{4}, x \in \mathbb{R}\}$
 $(-\infty, \frac{3}{4}]$

15. $\{x \mid x > 6, x \in \mathbb{R}\}$
 $(6, \infty)$

16. $\{x \mid x \geq 1, x \in \mathbb{R}\}$
 $[1, \infty)$