

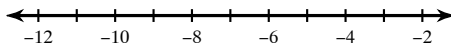
Compound Inequalities

Write each as an algebraic expression.

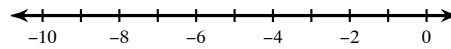
- 1) the quotient of a number and 7 is greater than 37
- 2) the sum of n and 10 is less than 21
- 3) a number decreased by 14 is greater than or equal to 44
- 4) the product of w and 6 is less than 22
- 5) 11 less than n is less than 16
- 6) twice m is greater than or equal to 28

Solve each inequality and graph its solution.

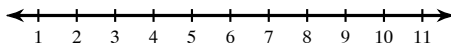
7) $-4 - 8n > 36$



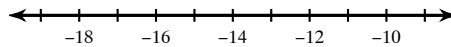
8) $7k - 7 < -42$



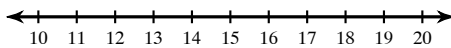
9) $\frac{8+x}{3} < 5$



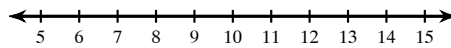
10) $-3 - 3n \leq 33$



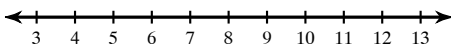
11) $-7 - 4x > -55$



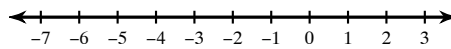
12) $-6(6+x) \leq -108$



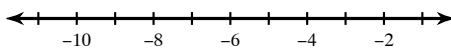
13) $-72 > -2(5x+6)$



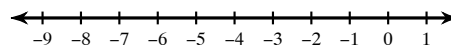
14) $96 > -4(1+5n)$



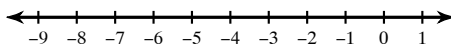
15) $-148 > -2x + 5(6x+4)$



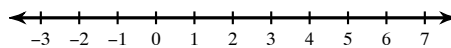
16) $6(4-4n) \geq 72$



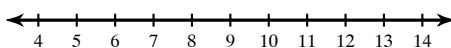
17) $76 \leq 4(-3n+4)$



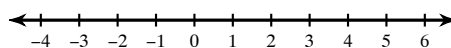
18) $-145 > -5(6k+5)$



19) $5a - 7 > -2(6 - 3a) - 1$

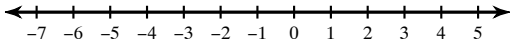


20) $-5 + 2p < -5(1 - 5p)$

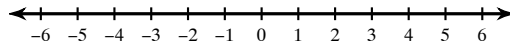


Solve each compound inequality and graph its solution.

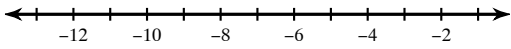
21) $b - 3 \geq -6$ and $b - 1 \leq -2$



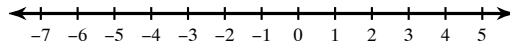
22) $\frac{x}{2} \geq -1$ and $2x \leq 6$



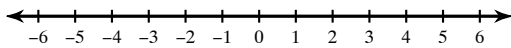
23) $-3x \leq 9$ and $x + 1 \leq -1$



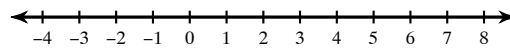
24) $\frac{n}{3} < 1$ and $n - 1 > -2$



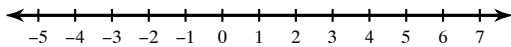
25) $\frac{x}{3} > 1$ or $2 + x \leq 0$



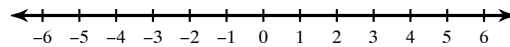
26) $-1 + v \leq -1$ or $v - 2 \geq -1$



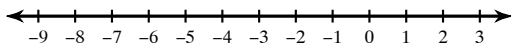
27) $r - 1 \geq 1$ or $r - 1 \leq -1$



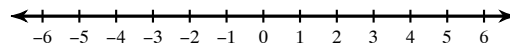
28) $x + 3 \geq 3$ or $\frac{x}{2} < -1$



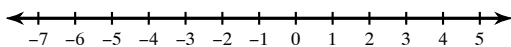
29) $3 + p < 0$ or $-1 - 3p < 2$



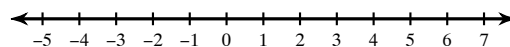
30) $2k + 2 > 8$ or $2k - 1 < -3$



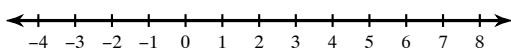
31) $-3 + 2x \leq -9$ or $-3x - 3 \leq -3$



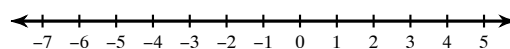
32) $n - 3 > 0$ or $2n - 3 \leq -3$



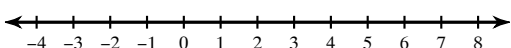
33) $n + \frac{3}{2} \leq \frac{5}{2}$ or $\frac{2}{5}n \geq \frac{2}{3}$



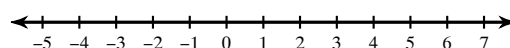
34) $k + \frac{4}{3} \leq 2$ or $k + \frac{1}{2} > \frac{11}{6}$



35) $-1 < m + \frac{1}{2} \leq \frac{3}{2}$



36) $n + \frac{5}{2} > \frac{17}{6}$ or $n - \frac{1}{2} \leq -\frac{3}{2}$



Compound Inequalities

Write each as an algebraic expression.

1) the quotient of a number and 7 is greater than 37 $\frac{n}{7} > 37$

2) the sum of n and 10 is less than 21

$n + 10 < 21$

3) a number decreased by 14 is greater than or equal to 44

$n - 14 \geq 44$

4) the product of w and 6 is less than 22

$w \cdot 6 < 22$

6) twice m is greater than or equal to 28

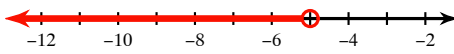
$2m \geq 28$

5) 11 less than n is less than 16

$n - 11 < 16$

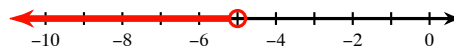
Solve each inequality and graph its solution.

7) $-4 - 8n > 36$



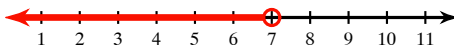
$n < -5$

8) $7k - 7 < -42$



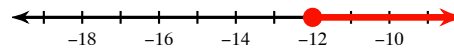
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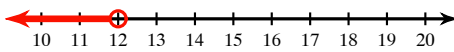
$x < 7$

10) $-3 - 3n \leq 33$



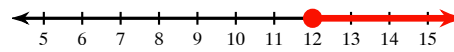
$n \geq -12$

11) $-7 - 4x > -55$



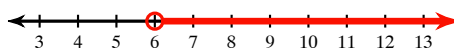
$x < 12$

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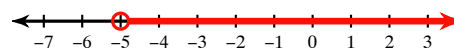
$x \geq 12$

13) $-72 > -2(5x+6)$



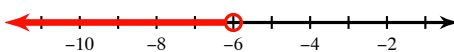
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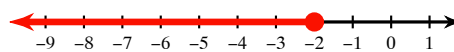
$n > -5$

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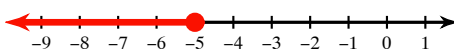
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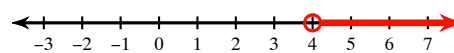
$n \leq -2$

17) $76 \leq 4(-3n+4)$



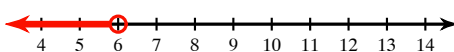
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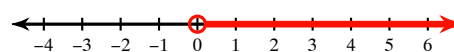
$k > 4$

19) $5a - 7 > -2(6 - 3a) - 1$



$a < 6$

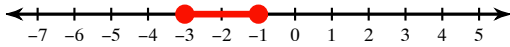
20) $-5 + 2p < -5(1 - 5p)$



$p > 0$

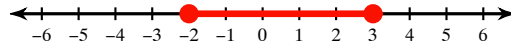
Solve each compound inequality and graph its solution.

21) $b - 3 \geq -6$ and $b - 1 \leq -2$



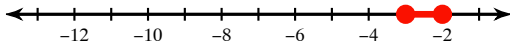
$-3 \leq b \leq -1$

22) $\frac{x}{2} \geq -1$ and $2x \leq 6$



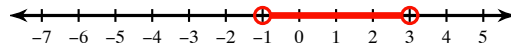
$-2 \leq x \leq 3$

23) $-3x \leq 9$ and $x + 1 \leq -1$



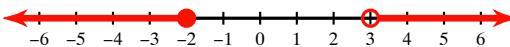
$-3 \leq x \leq -2$

24) $\frac{n}{3} < 1$ and $n - 1 > -2$



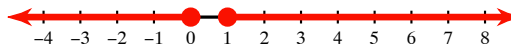
$-1 < n < 3$

25) $\frac{x}{3} > 1$ or $2 + x \leq 0$



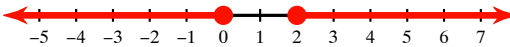
$x > 3$ or $x \leq -2$

26) $-1 + v \leq -1$ or $v - 2 \geq -1$



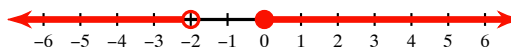
$v \leq 0$ or $v \geq 1$

27) $r - 1 \geq 1$ or $r - 1 \leq -1$



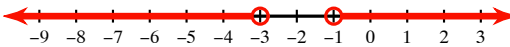
$r \geq 2$ or $r \leq 0$

28) $x + 3 \geq 3$ or $\frac{x}{2} < -1$



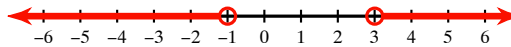
$x \geq 0$ or $x < -2$

29) $3 + p < 0$ or $-1 - 3p < 2$



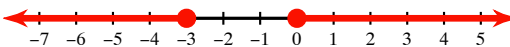
$p < -3$ or $p > -1$

30) $2k + 2 > 8$ or $2k - 1 < -3$



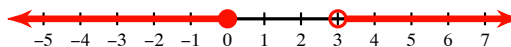
$k > 3$ or $k < -1$

31) $-3 + 2x \leq -9$ or $-3x - 3 \leq -3$



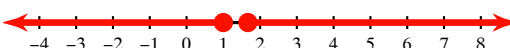
$x \leq -3$ or $x \geq 0$

32) $n - 3 > 0$ or $2n - 3 \leq -3$



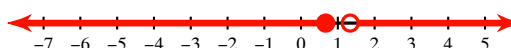
$n > 3$ or $n \leq 0$

33) $n + \frac{3}{2} \leq \frac{5}{2}$ or $\frac{2}{5}n \geq \frac{2}{3}$



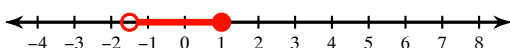
$n \leq 1$ or $n \geq \frac{5}{3}$

34) $k + \frac{4}{3} \leq 2$ or $k + \frac{1}{2} > \frac{11}{6}$



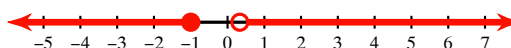
$k \leq \frac{2}{3}$ or $k > \frac{4}{3}$

35) $-1 < m + \frac{1}{2} \leq \frac{3}{2}$



$-\frac{3}{2} < m \leq 1$

36) $n + \frac{5}{2} > \frac{17}{6}$ or $n - \frac{1}{2} \leq -\frac{3}{2}$



$n > \frac{1}{3}$ or $n \leq -1$