

## Review Unit 1

**Solve each equation.**

1)  $\frac{|9 + 3p|}{6} = 2$

2)  $|3 + 5a| + 8 = 46$

3)  $\frac{|-9v + 10|}{4} = 1$

4)  $-10|3n - 6| = -30$

**Factor each completely.**

5)  $18u^3v + 14u^3 + 6u^4 + 42u^2v$

6)  $80xy - 224n - 64x + 280ny$

7)  $120nxy - 5n^4 + 40n^3x - 15n^2y$

8)  $54a^3b + 48a^2p - 18a^3 - 144a^2pb$

9)  $32x^3 + 4$

10)  $216u^3 + 125$

11)  $2x^3 + 54$

12)  $125m^3 + 1$

**Solve each equation by factoring.**

13)  $16x = 3x - 14 - 3x^2$

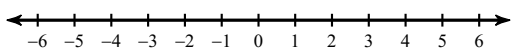
14)  $8 + 25x = -5x - 7x^2$

15)  $294k^2 - 587k + 288 = k$

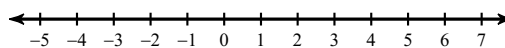
16)  $5x^2 + 3x = -7x + 2x^2 - 8$

**Solve each compound inequality and graph its solution.**

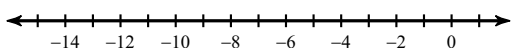
17)  $2x - 2 \geq 4x + 2$  or  $4 + 7x \geq 7 + 4x$



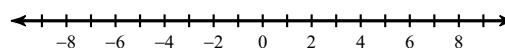
18)  $-8m - 5 \leq -4m + 7 \leq 6 - 5m$



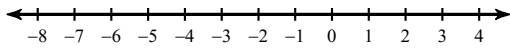
19)  $-2 - 8x > 9 - 7x$  or  $10x + 10 > 7 + 9x$



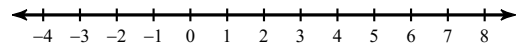
20)  $-7 + 5n > 8n + 8$  or  $5n + 2 \leq -10 + 8n$



21)  $-10n - 8 \geq -8 + 6n$  or  $8 + 6n > 6n + 10$

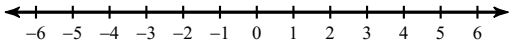


22)  $3 + 4x < 8 - x \leq x + 8$

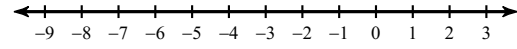


**Solve each inequality and graph its solution.**

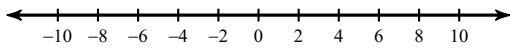
23)  $-6 - |1 + 8b| > -7$



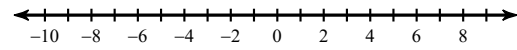
24)  $-1 + |m + 4| \geq 1$



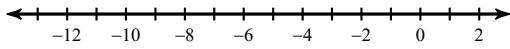
25)  $-2|7x + 3| \leq -92$



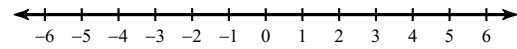
26)  $|-1 - 7n| - 5 \geq 29$



27)  $-8|x + 6| \leq -32$



28)  $-8|10m + 6| < -112$



## Review Unit 1

Solve each equation.

1)  $\frac{|9 + 3p|}{6} = 2$

$\{1, -7\}$

2)  $|3 + 5a| + 8 = 46 \left\{7, -\frac{41}{5}\right\}$

3)  $\frac{|-9v + 10|}{4} = 1 \left\{\frac{2}{3}, \frac{14}{9}\right\}$

4)  $-10|3n - 6| = -30$   
 $\{3, 1\}$

Factor each completely.

5)  $18u^3v + 14u^3 + 6u^4 + 42u^2v$   
 $2u^2(3u + 7)(3v + u)$

6)  $80xy - 224n - 64x + 280ny$   
 $8(2x + 7n)(5y - 4)$

7)  $120nxy - 5n^4 + 40n^3x - 15n^2y$   
 $5n(8x - n)(3y + n^2)$

8)  $54a^3b + 48a^2p - 18a^3 - 144a^2pb$   
 $6a^2(3a - 8p)(3b - 1)$

9)  $32x^3 + 4$   
 $4(2x + 1)(4x^2 - 2x + 1)$

10)  $216u^3 + 125$   
 $(6u + 5)(36u^2 - 30u + 25)$

11)  $2x^3 + 54$   
 $2(x + 3)(x^2 - 3x + 9)$

12)  $125m^3 + 1$   
 $(5m + 1)(25m^2 - 5m + 1)$

Solve each equation by factoring.

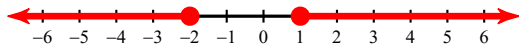
13)  $16x = 3x - 14 - 3x^2$   
 $\left\{-\frac{7}{3}, -2\right\}$

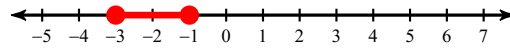
14)  $8 + 25x = -5x - 7x^2$   
 $\left\{-\frac{2}{7}, -4\right\}$

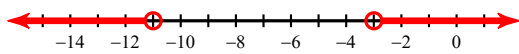
15)  $294k^2 - 587k + 288 = k$   
 $\left\{\frac{6}{7}, \frac{8}{7}\right\}$

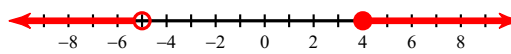
16)  $5x^2 + 3x = -7x + 2x^2 - 8$   
 $\left\{-\frac{4}{3}, -2\right\}$

Solve each compound inequality and graph its solution.

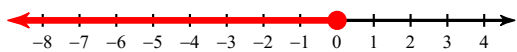
17)  $2x - 2 \geq 4x + 2$  or  $4 + 7x \geq 7 + 4x$   
  
 $x \leq -2$  or  $x \geq 1$

18)  $-8m - 5 \leq -4m + 7 \leq 6 - 5m$   
  
 $-3 \leq m \leq -1$

19)  $-2 - 8x > 9 - 7x$  or  $10x + 10 > 7 + 9x$   
  
 $x < -11$  or  $x > -3$

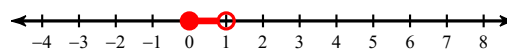
20)  $-7 + 5n > 8n + 8$  or  $5n + 2 \leq -10 + 8n$   
  
 $n < -5$  or  $n \geq 4$

21)  $-10n - 8 \geq -8 + 6n$  or  $8 + 6n > 6n + 10$



$n \leq 0$

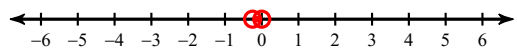
22)  $3 + 4x < 8 - x \leq x + 8$



$0 \leq x < 1$

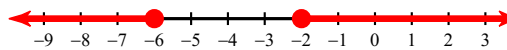
**Solve each inequality and graph its solution.**

23)  $-6 - |1 + 8b| > -7$



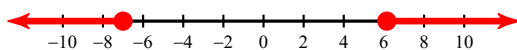
$-\frac{1}{4} < b < 0$

24)  $-1 + |m + 4| \geq 1$



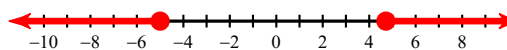
$m \geq -2$  or  $m \leq -6$

25)  $-2|7x + 3| \leq -92$



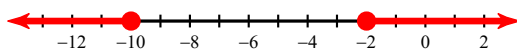
$x \geq \frac{43}{7}$  or  $x \leq -7$

26)  $|-1 - 7n| - 5 \geq 29$



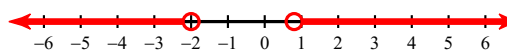
$n \leq -5$  or  $n \geq \frac{33}{7}$

27)  $-8|x + 6| \leq -32$



$x \geq -2$  or  $x \leq -10$

28)  $-8|10m + 6| < -112$



$m > \frac{4}{5}$  or  $m < -2$