ALGEBRA 1 / UNIT 3 / LESSON 2

PRACTICE PROBLEMS 2

1. $-16 > -5n - 3n$
2. $-5z - 2z > -14$
3. $5k - 8k > -15$
4. $-2 \geq -4p + 6 + 8$
5. $30 - 5m < -3(-6 + 3m)$
6. $-2(6x - 3) \leq 3(x + 18)$
7. $27 + 4x \leq -(x + 18)$
8. $34 + 4x \leq -3(x + 5)$
9. If 7 is added to the product of 3 and z the result is greater than 31.
10. When 25 is subtracted from 5 times a number the result is at least the sum of 3 times the number and 15.
11. When 6 times a number is added to 22 the result is greater than 15 times the number decreased by 5.
12. The local high school is having a concert to raise funds for its athletic team. The cost of printing tickets is $10 each. The cost for the band and other incidentals is $6500. The committee plans to sell each ticket for $30. They have already received donations of $500. What is the minimum number of tickets that must be sold to cover expenses?

SOLUTIONS

1. $-16 > -5n - 3n$
   $-16 > -8n$
   $2 < n$
2. $-5z - 2z > -14$
   $-7z > -14$
   $7 < 2$
3. $5k - 8k > -15$
   $-3k > -15$
   $k < 5$
4. $-2 \geq -4p + 6 + 8$
   $-16 \geq -4p$
   $4 \leq p$
5. $30 - 5m < -3(-6 + 3m)$
   $30 - 5m < 18 - 9m$
   $4m < -12$
   $m < -3$
6. $-2(6x - 3) \leq 3(x - 18)$
   $-12x + 6 \leq 3x - 54$
   $60 \leq 15x$
   $4 \leq x$
7. $27 + 4x \leq -(x + 18)$
   $27 + 4x \leq -x - 18$
   $5x \leq -45$
   $x \leq -9$
8. $34 + 4x \leq -3(x + 5)$
   $34 + 4x \leq -3x - 15$
   $7x \leq -49$
   $X \leq -7$

9. If 7 is added to the product of 3 and z the result is greater than 31.

   $3z + 7 > 31$
   $-7 > -7$

   $3z > 24$
   $z > 8$

10. When 25 is subtracted from 5 times a number the result is at least the sum of 3 times the number and 15.

$5x - 25 \geq 3x + 15$

$2x \geq 40$

$x \geq 20$

11. When 6 times a number is added to 22 the result is greater than 15 times the number decreased by 5.

$6n + 22 > 15n - 5$

$27 > 9n$

$3 > n$

12. The local high school is having a concert to raise funds for its athletic team. The cost of printing tickets is $10 each. The cost for the band and other incidentals is $6500. The committee plans to sell each ticket for $30. They have already received donations of $500. What is the minimum number of tickets that must be sold to cover expenses?

$30t + 500 \geq 10t + 6500$

$20t \geq 6000$

$t \geq 300$