

Multiple Choice. Select the inequality that represents the situation.

1. Twice a number increased by seven is greater than four.

(A) $n + 2 + 7 < 4$

(B) $2n + 7 < 4$

(C) $n + 2 + 7 > 4$

(D) $2n + 7 > 4$

2. When 12 is subtracted from 3 times a number, the result is no more than 24.

(A) $12 - 3n \leq 24$

(B) $3n - 12 \leq 24$

(C) $3n - 12 < 24$

(D) $12 - 3n < 24$

3. Jake has 8 cupcakes. He makes 12 cupcakes every hour. He plans to bake until he has at least 48 cupcakes.

(A) $8h + 12 \geq 48$

(B) $8h + 12 > 48$

(C) $8 + 12h \geq 48$

(D) $8 + 12h > 48$

4. Sandra has 50 dollars to spend on souvenirs. She buys a magnet for \$2.50 and 6 keychains for her friends. The keychains are all the same price. How much are the keychains?

(A) $50 \geq 2.50 + 6k$

(B) $50 \leq 2.50 + 6k$

(C) $50 \geq 6k - 2.50$

(D) $50 \leq 6k - 2.50$

5. Anthony went to the hobby shop and bought 2 model airplanes at \$8.95 each and some paints. If he spent more than \$23.65, what was the cost of the paints? Include an equation to represent this.

(A) $2 + 8.95 > 23.65p$

(B) $2(8.95) + p > 23.65$

(C) $8.95 + 2p > 23.65$

(D) $2p + 8.95 > 23.65$

6. Kendra is buying bottled water for a class trip. She has 18 bottles left over from the last trip. She buys bottles by the case to get a good price. Each case holds 24 bottles. How many cases will she have to buy if she wants to have more than 160 bottles of water?

(A) $24 + 18 > 160c$

(B) $c > 160 - 24 - 18$

(C) $24c + 18 > 160$

(D) $24 + 18c > 160$

Create an inequality to model the following. Solve your inequality. SHOW ALL STEPS!

7. The quotient of a number and three increased by 12 is no more than 20. What is the number?

Inequality: $\frac{n}{3} + 12 \leq 20$

$$\begin{array}{r} \frac{n}{3} + 12 \leq 20 \\ -12 \quad -12 \\ \hline \frac{n}{3} \leq 8 \\ \cdot 3 \quad \cdot 3 \\ \hline n \leq 24 \end{array}$$

Solution: $n \leq 24$

8. Five increased by product of a number and three is greater than 23. What is the number?

Inequality: $5 + 3n > 23$

$$\begin{array}{r} 5 + 3n > 23 \\ -5 \quad -5 \\ \hline 3n > 18 \\ \div 3 \quad \div 3 \\ \hline n > 6 \end{array}$$

Solution: $n > 6$

9. The product of negative two and a number decreased by four is at least thirty-six. What is the number?

Inequality: $-2n - 4 \geq 36$

$$\begin{array}{r} -2n - 4 \geq 36 \\ +4 \quad +4 \\ \hline -2n \geq 40 \\ \div -2 \quad \div -2 \\ \hline n \leq -20 \end{array}$$

Solution: $n \leq -20$

10. The local flea market charges the vendors a flat rate of \$25 plus \$5 for each hour that they spend at the market. If the vendor owed at least \$60, how many hours did he remain at the flea market?

Inequality: $25 + 5h \geq 60$

Variable and what it represents:

$h = \#$ of hours spent at flea market

Solution: $5h \geq 35$
 $h \geq 7$

Sentence explaining the solution:

The vendor spent 7 or more hours at the flea market

11. Mr. Kelly starts the day off with 49 Jolly Ranchers. He eats 6 Jolly Ranchers every hour. He wants to have at least 4 Jolly Ranchers left over for his kids. How long can he eat Jolly Ranchers for?

Inequality: $49 - 6h \geq 4$

Variable and what it represents:

$h = \#$ of hours

Solution: $-6h \geq -45$
 $h \leq 7.5$

Sentence explaining the solution:

Mr Kelly can eat Jolly Ranchers for 7.5 hours or less

12. A cellphone company charges \$19 plus \$0.25 for each text message sent. The total bill was greater than \$47.50. How many text messages were sent?

Inequality: $19 + 0.25t > 47.50$

Variable and what it represents:

$t = \#$ of text messages

Solution: $0.25t > 28.50$
 $t > 114$

Sentence explaining the solution:

There were more than 114 text messages sent