Solve the inequality. Graph the solution. *(Section 4.3 and Section 4.4)*

1. $3p \leq 18$ $p \leq 6$ (graph)   0   6

2. $2x > -\dfrac{3}{5}$ $x > -\dfrac{3}{10}$ (graph) $-\dfrac{3}{10}$ 0

3. $\dfrac{r}{3} \geq -5$ $r \geq -15$ (graph) -15 0

4. $-\dfrac{z}{8} < 1.5$ $z > -12$ (graph) -12 0

5. $3n + 2 \leq 11$ $n \leq 3$ (graph)   0   3

6. $-2 < 5 - \dfrac{k}{2}$ $k < 14$ (graph)   0   14

7. $1.3m - 3.8 < -1.2$ $m < 2$ (graph)   0   2

8. $4.8 \geq 0.3(12 - y)$ $y \geq -4$ (graph) -4 0

Write the word sentence as an inequality. Then solve the inequality. *(Section 4.3)*

9. The quotient of a number and 5 is less than 4. $\dfrac{n}{5} < 4$ $n < 20$

10. Six times a number is at least -14. $6n \geq -14$ $n > -2\dfrac{1}{3}$
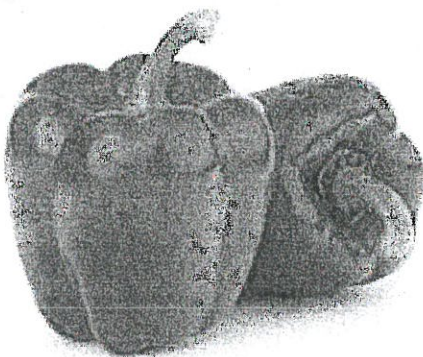
11. **PEPPERS** You have $18 to buy peppers. Peppers cost $1.50 each. Write and solve an inequality that represents the number of peppers you can buy. *(Section 4.3)*

$1.5x \leq 18$

$x \leq 12$

12. **MOVIES** You have a gift card worth $90. You want to buy several movies that cost $12 each. Write and solve an inequality that represents the number of movies you can buy and still have at least $30 on the gift card. *(Section 4.4)*

$90 - 12x \geq 30$

$x \leq 5$

13. **CHOCOLATES** Your class sells boxes of chocolates to raise $500 for a field trip. You earn $6.25 for each box of chocolates sold. Write and solve an inequality that represents the number of boxes your class must sell to meet or exceed the fundraising goal. *(Section 4.3)*

$6.25x \geq 500$

$x \geq 80$
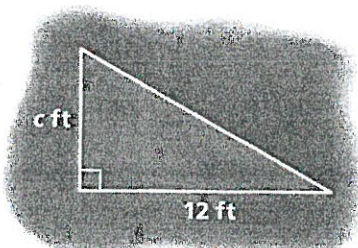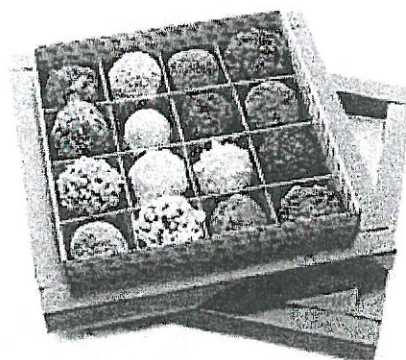
14. **FENCE** You want to put up a fence that encloses a triangular region with an area greater than or equal to 60 square feet. What is the least possible value of c? Explain. *(Section 4.3)*

$A = \dfrac{1}{2}bh$

$\dfrac{1}{2}(12)(c) \geq 60$

$6c \geq 60$

$c \geq 10$

c ft

12 ft

Write the word sentence as an inequality.

1. A number k plus 19.5 is less than or equal to 40. $k + 19.5 \leq 40$

2. A number q multiplied by $\frac{1}{4}$ is greater than -16. $\frac{1}{4}q > -16$

Tell whether the given value is a solution of the inequality.
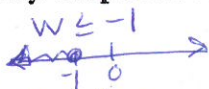
3. $n - 3 \leq 4; n = 7$ True

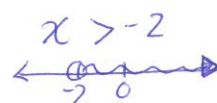4. $-\frac{3}{7}m < 1; m = -7$ false

5. $-4c \geq 7; c = -2$ true

6. $-2.4m > -6.8; m = -3$ true

Solve the inequality. Graph the solution.

7. $w + 4 \leq 3$ $w \leq -1$

8. $x - 4 > -6$ $x > -2$

9. $-\frac{2}{9} + y \leq \frac{5}{9}$ $y \leq \frac{7}{9}$

10. $-6z \geq 36$ $z \leq -6$

11. $-5.2 \geq \frac{p}{4}$ $-20.8 \geq p$
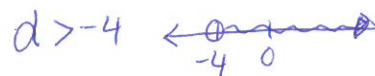
12. $4k - 8 \geq 20$ $k \geq 7$

13. $\frac{4}{7} - b \geq -\frac{1}{7}$ $b \leq \frac{5}{7}$

14. $-0.6 > -0.3(d + 6)$ $d > -4$

15. **GUMBALLS** You have $2.50. Each gumball in a gumball machine costs $0.25. Write and solve an inequality that represents the number of gumballs you can buy. $0.25n \leq 2.5$ $n \leq 10$

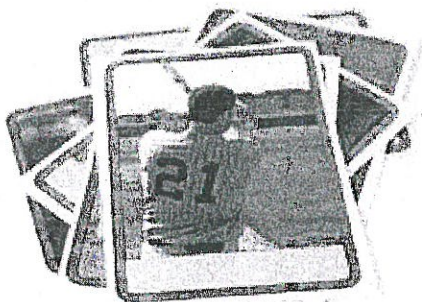16. **PARTY** You can spend no more than $100 on a party you are hosting. The cost per guest is $8.

    $8n \leq 100$ **a.** Write and solve an inequality that
    $n \leq 12.5$ represents the number of guests you can invite to the party.

    b. What is the greatest number of guests that you can invite to the party? Explain your reasoning.   12 because you can not invite ½ of a guest.

17. **BASEBALL CARDS** You have $30 to buy baseball cards. Each pack of cards costs $5. Write and solve an inequality that represents the number of packs of baseball cards you can buy and still have at least $10 left. $30 - 5x \geq 10$ $x \leq 4$