Name _____ Class _____ Date _____

Quarter 1 Test — Form G

Chapters 1–3

Write an expression for each phrase.

1. eight less than 12 times x
2. negative five times the quantity three plus k

Simplify each expression.

3. $-7.4 - 2.8$
4. $2\frac{1}{2} + \left(-3\frac{1}{8}\right)$
5. List all the subsets of $\{2, 3, 5, 8\}$.
6. Solve: $\frac{x}{6} = \frac{5}{8}$
7. You have a coupon for 10% off of a DVD that costs \$15. If a tax of 8% is charged on the original amount, what will you pay for the DVD?
8. Use an equation to model the relationship shown in the table.

Month	Cost
1	\$12
2	\$24
3	\$36
4	\$48

9. Estimate $\sqrt{68}$ to the nearest integer.
10. Which property is illustrated?

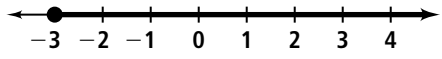
    $(4 \cdot -7) \cdot 5 = 4(-7 \cdot 5)$

Solve each inequality. Check your answer.

11. $n - 9.4 \geq 15.6$
12. $-20 \leq -4x$
13. The formula for finding the area of a triangle is $A = \frac{1}{2}bh$.

    A triangle has height 12 in. and area 54 in.^{2}. What is the length of its base?
14. Evaluate the expression $b^2 - 2c$ for $b = 6$, and $c = 2.5$.
15. Which property is illustrated?

    $6(3 + 1) = 6 \cdot 3 + 6 \cdot 1$
16. Write an equation to model this situation. Then use your equation to solve. Jack saved \$16.50 to spend on amusement-ride tickets. Each ticket costs \$0.75. How many tickets can Jack buy?
17. Tell whether $x = 6$ is a solution of the equation $2x^2 - (4x + 5) = 43$.
18. Write an inequality for the graph.



19. There are 15 clowns in a circus. Each clown has to act either happy or sad. Twelve of the clowns have red noses. Each of the seven happy clowns has a red nose. Five of the sad clowns have red noses. How many clowns have to act sad and do not have a red nose?

Name _____ Class _____ Date _____

Quarter 1 Test (continued) Form G

Chapters 1–3

Solve each equation. Check your answer.

20. $9k - 2 = 43$

21. $2(y + 5) = 16$

22. $5(h + 2) = -3(4 - h)$

23. Simplify the expression.

$$\frac{8 + 4(3)^2}{2^2 + 3}$$

24. Schools often have a section of street called a school zone located near their entrances. In a school zone, driving speeds are reduced at certain times of the day.

If a school zone is 0.3 mi long, how many minutes longer does it take to drive through it at 20 mi/h than at 30 mi/h?

25. A tree grows from 5 ft to 5.7 ft. What is the percent increase?

Solve each inequality. Check your answer.

26. $2y - 6 < 4(2 + y)$

27. $8 + 6n \geq 2$ or $-10n \geq 50$.

28. $|x - 6| \geq 8$

29. Tell whether the ordered pair $(15, 6)$ is a solution of the equation $y = \frac{4}{5}x - 6$.

30. $\triangle CAB$ is similar to $\triangle EDF$. What is the length of $\overline{DE}$?