Final Review Homework 2
NAME _______________________

Solve the following.

1. $-5x = 20$

2. $\frac{1}{2}x - 3 = \frac{2}{5}$

3. $x^2 + 3x = 0$

4. $5R - W = P$ for R

5. $3(2x - 3) < 15$

6. $x^2 + 5x = 14$
7. $4x + 3x = 7x - 2x + 8$

8. $4x + 9 \geq 1$

9. $x^2 + 7x + = -10$

10. $D = rt$ for $r$

11. $-9x + 5(x + 1) > 17$

12. $2x - 9 \leq 7x + 1$
13. \( x^2 - 26 = 25x \)

14. \( M = \frac{D + X}{3} \) for \( D \)

15. The number of hours \( H \) a growing child should sleep is \( H = 17 - \frac{A}{2} \), where \( A \) is the age of the child in years. The parents of an infant cannot wait until the child sleeps just 8 hours a day. At what age will this happen?

16. The second angle of a triangle is 3 times as large as the first. The third angle is 30° more than the first. Find the measure of each angle.

17. Three less than twice a number is 19. What is the number?

18. Five times the sum of a number and three is 70. What is the number?

19. The sum of three consecutive integers is 63. What are the integers?
20. The perimeter of a rectangle is 26 meters. The length is five more than the width. Find the dimensions.

21. What percent of 20 is 7?

22. 9 is 45% of what number?

23. What number is 12% of 51?

24. The time, \( t \), needed to fill the gas tank of a car varies inversely as the square of the diameter, \( d \), of the hose. If \( t = 8 \) min when \( d = 3 \) cm, find \( t \) when \( d = 2 \) cm.

25. An experimental drug is given to 50 people with a certain ailment. Thirty-seven of these people were cured by the drug. Select the statement of condition for the expectation of a cure \( C \) if 2000 people with the ailment are given the drug.

\[
a. \quad \frac{50}{37} = \frac{C}{2000} \\
\]

\[
b. \quad \frac{50}{2000} = \frac{C}{37} \\
\]

\[
c. \quad \frac{50}{2000} = \frac{37}{C} \\
\]

\[
d. \quad \frac{37}{50} = \frac{2000}{C} \\
\]
26. Find the slope of the line passing through (5, -2) and (-3, 1).

Graph the following linear equations.

27. \( x = 3 \)  
28. \( y = 2x - 5 \)  
29. \( 3x + 2y = 8 \)

30. Match the following graphs with the appropriate equations.
   a. \( y = -4x \)  
   b. \( y = -4 \)  
   c. \( y = -x + 4 \)  
   d. \( y = -\frac{1}{4}x \)

30A. Find the y-intercept of \(-4x + 3y = 9\)
Simplify.

31. \( \frac{x^2 - 25}{5 - x} \)

32. \( \frac{4x + 12}{2x - 6} \cdot \frac{x - 3}{x^2 + 8x + 15} \)

33. \( \frac{4x^4}{x^2 - 1} \div \frac{2x^3}{x^2 - 2x + 1} \)

34. \( \frac{7}{3x} + \frac{2}{3x} \)

35. \( \frac{3x + 5}{x^2 + 2x - 8} - \frac{2x + 7}{x^2 + 2x - 8} \)

Simplify.

36. \( \sqrt{18x^3} \)

37. \( 3\sqrt{5} - 7\sqrt{2} + 4\sqrt{5} \)

38. \( 2\sqrt{75} - 7\sqrt{3} \)

39. \( \sqrt{\frac{9x^2}{25}} \)

40. \( (\sqrt{x} + 2)(\sqrt{x} - 5) \)
Answers to final review homework 2

1. -4  
2. \( \frac{34}{5} \)  
3. \( x=0.3 \)  
4. \( R = \frac{P+W}{5} \)

5. \( x<4 \)  
6. \( x=-7.2 \)  
7. \( x=4 \)  
8. \( x>2 \)

9. \( x=-2, -5 \)  
10. \( r = \frac{D}{t} \)  
11. \( x<-3 \)  
12. \( x>2 \)

13. \( x=26,-1 \)  
14. \( D=3M-X \)  
15. 18  
16. 30, 90, 60

17. 11  
18. 11  
19. 20, 21, 22  
20. 4, 9

21. 35%  
22. 20  
23. 6.12  
24. 18

25. c  
26. \( -\frac{3}{8} \)

27.  
28.  
29.  
30.  
31. -1(x+5)  
32. \( \frac{2}{x+5} \)  
33. \( \frac{2(x-1)}{x+1} \)

34. \( \frac{3}{x} \)  
35. \( \frac{1}{x+4} \)  
36. \( 3x\sqrt{2x} \)  
37. \( 7\sqrt{5} - 7\sqrt{2} \)

38. \( 3\sqrt{3} \)  
39. \( \frac{3x}{5} \)  
40. \( x-3\sqrt{x}-10 \)