CONCEPT 1: Solve Linear Equations
Solve each equation for x. Show all work.

1) \(16 = b - 4 + 3b\) 
2) \(6 + 3a - 6 = -18\)

3) \(11 = v + 6 - 2v\) 
4) \(33 - 3n = 3(n + 3) + 6\)

5) \(27 - 8n = 5(1 - 6n)\) 
6) \(4 + 6(r - 6) = -34 + 6r\)

7) \(-4(6r + 9) = 3(6 - 5r)\) 
8) \(4(1 - 2x) - 7 = -(x - 11)\)

9) \(-5(4 + 9b) = -4(5 + 9b) - 3b\)

CONCEPT 2: Solve linear inequalities and graph the solution. Solve each inequality and graph its solution.
Solve each inequality and graph its solution.

10) \(12 \leq 4m + 2m\) 
11) \(16 < 3b + b\)
12) $7 < 1 - 2n + 4$

13) $30 + 2k > 2(1 + 8k)$

14) $6(-2x + 6) > -19 - x$

15) $36 + x \geq 6(5x + 6)$

CONCEPT 3: Solve absolute value equations and inequalities.
Solve each equation.

16) $|x + 4| = 4$

17) $|-5p + 7| = 33$

18) $\frac{|3b - 10|}{3} = -5$

Solve each inequality and graph its solution.

19) $|a - 1| \geq 6$

20) $|5k - 1| \leq 9$
21) \[ |9x - 9| - 10 \geq 8 \]

CONCEPT 4: Find the Slope given two points.
Find the slope of the line through each pair of points.

22) \((16, -17), (-11, 0)\)  
23) \((8, -11), (6, -13)\)  
24) \((0, 7), (6, 3)\)  
25) \((13, -1), (11, -1)\)  
26) \((0, -14), (20, 17)\)  
27) \((4, 9), (-14, -5)\)

CONCEPT 5: Write equations for lines.
Write the slope-intercept form of the equation of each line given the slope and y-intercept.

28) Slope = 0,  y-intercept = -5  
29) Slope = -2,  y-intercept = 2

Write the slope-intercept form of the equation of the line through the given points.

30) through: \((-4, -3)\) and \((0, 3)\)  
31) through: \((1, -2)\) and \((4, -4)\)
Write the slope-intercept form of the equation of the line through the given point with the given slope.

32) through: (1, 5), slope = 6

33) through: (4, -3), slope = -2

Write the slope-intercept form of the equation of each line.

34) \( x - y = 5 \)

35) \( 11x - 4y = -32 \)

Sketch the graph of each line.

36) \( y = 2x - 5 \)

37) \( y = 7x - 2 \)
38) \( y = -\frac{6}{5}x - 4 \)

39) \( x\)-intercept = \(-3\), \( y\)-intercept = \(2\)

40) \( x\)-intercept = \(-5\), \( y\)-intercept = \(-5\)

41) \( 9x + 2y = 8 \)
CONCEPT 6: Evaluating expressions with Rational numbers.
Evaluate each expression.

45) \(18 - (-9) - 40\)

46) \((-9) + 39 - 9\)
Find each quotient.

47) \(15 ÷ 3\)  

48) \(-154 ÷ -11\)

49) \(24 ÷ 6\)  

50) \(100 ÷ 10\)

Find each product.

51) \((-19)(-17)\)  

52) \((8)(-19)\)

Evaluate each expression.

53) \(4 \times (-7)((-5) - (-4))\)  

54) \(\frac{5 \times 2}{3 - 8}\)

CONCEPT 7: Simplify Rational expressions.

Simplify each expression.

55) \(\frac{4}{5} + \frac{b - 6}{b + 3}\)  

56) \(\frac{6}{4} - \frac{3}{2b + 2}\)

57) \(\frac{11m}{8m} \cdot \frac{13m}{10m^3}\)  

58) \(\frac{3n^3}{2} \cdot \frac{20}{13}\)
59) \( \frac{6}{4} + \frac{6}{12p^2} \)

60) \( \frac{5}{20} + \frac{17}{19x} \)

CONCEPT 8: Proportions.
Solve each proportion.

61) \( \frac{11}{n} = \frac{7}{8} \)

62) \( \frac{b}{5} = -\frac{11}{9} \)

63) \( \frac{9}{7} = \frac{n}{9} \)

CONCEPT 9: Combining like terms.
Simplify each expression.

64) \( 9r - 2 + 3 \)

65) \( 2k - 7 + k - 2 \)

66) \( -5 + 8(v - 8) \)

67) \( -3(1 - 3v) - 6 \)

68) \( 6(2 - 8x) + 2(x - 6) \)

69) \( -(1 - 2n) - 5(6n + 2) \)