

Practice for Semester 1 Exam

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Date _____ Period _____

Evaluate each expression.

1) $-\frac{24}{|8|} - (-6)$

2) $(-5) - (-8) - ((-4) - 4)$

3) $(-1) + 5 - ((-1) - 1)$

4) $(1^2)((10)(-5))$

5) $(8 - 9)((3)(3))$

6) $2 + |3 + 1|$

7) $\frac{8 - 4}{(-3) - (-1)}$

8) $\left(-\frac{28}{7}\right) + 10 - 9$

9) $\left(-\frac{27}{3^2}\right)(-2)$

10) $\frac{4}{|2|^2}$

Simplify. Your answer should contain only positive exponents.

11) $\frac{2x^{-3}y^2}{(-2x^5y^5)^{-1} \cdot xy^4}$

12) $\left(\frac{2nm^2 \cdot -m^3n^3}{-m^{-1}n^{-3}}\right)^3$

13) $-\frac{x^5y^5 \cdot -xy^5}{(-2xy^2)^5}$

14) $\frac{(-2x^5y^2 \cdot 2y^5 \cdot x^2y^{-1})^{-2}}{2yx^2}$

15) $\frac{2x^3y^3 \cdot 2x^3}{(xy^0 \cdot (-x^{-1}y^{-5})^{-5})^4}$

16) $\left(\frac{-2u^4v^2 \cdot -u^3v^{-4}}{-v^2}\right)^0$

17) $\left(\frac{-2y^5 \cdot 2x^5}{-x^4}\right)^5$

18) $\left(\frac{u^2v^3}{v^{-1}v^{-4}}\right)^{-1}$

19) $\left(\frac{y^0}{2x^4y^0 \cdot x^4y^2}\right)^3$

20) $-\frac{b^2}{(-ab^0)^2(ab^3)^5}$

21) $\frac{2x^0y^0 \cdot -xy^3}{(-x^3)^{-4}}$

22) $\frac{(-a^4)^5}{2a^{-5}b^5 \cdot 2b^3}$

$$23) \frac{x^4 y^5}{(-x^5)^5 \cdot -x^{-1} y^3}$$

$$24) \left(-\frac{2m^0 n^{-5}}{n^{-5} \cdot 2m^{-1} n^2} \right)^{-4}$$

$$25) \left(\frac{x^0 y^2 \cdot -x^{-2}}{x^5} \right)^{-4}$$

$$26) \frac{(m^5)^2}{-m^2 n^{-4} \cdot -2m^5 n^4}$$

$$27) \frac{(2x^4 y^{-4})^0 \cdot -2x^{-1} y^2}{-2x^{-3}}$$

$$28) -\frac{2x^{-2} \cdot -x^{-2} y^{-5}}{(2x^{-5} y^3)^4}$$

$$29) \frac{(x^{-2} y^3)^3}{-2x^{-3} y^5 \cdot -2x^0 y^4}$$

$$30) \frac{(x^3)^{-4}}{2y^3 \cdot 2x^{-3} y^4}$$

$$31) \left(\frac{x^5 y^{-5} \cdot 2x^5}{2y^{-3}} \right)^0$$

$$32) \frac{(u^4 v^{-5})^2}{(2u^3 v^{-5} \cdot 2u^0 v^0)^4}$$

$$33) \left(\frac{u^{-4} v^5 \cdot u^5 v^4}{v^{-5}} \right)^2$$

$$34) \left(\frac{2y \cdot 2x^{-4} y^4}{x^0 y^{-4}} \right)^3$$

$$35) \frac{(x^3 y^{-1})^{-2}}{x^5 \cdot 2y^2}$$

$$36) \frac{(2a^{-5} b^0)^{-1} a^3}{b^{-3}}$$

$$37) \frac{(2y^5 \cdot 2x^5 y^{-1})^{-4}}{xy^{-2}}$$

$$38) \frac{(2a^{-4} b^4)^{-3}}{(b^5)^{-5} \cdot 2a^{-5} b^4}$$

$$39) \left(\frac{n^5 \cdot m^2 n^4}{mn^4} \right)^4$$

$$40) \left(\frac{2y \cdot 2x^3 y^{-3} \cdot x^3 y^4}{2x} \right)^{-1}$$

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

41) through: $(0, -2)$ and $(5, -2)$

42) through: $(-2, -5)$ and $(0, -2)$

43) through: $(-1, 5)$ and $(0, -1)$

44) through: $(0, -1)$ and $(3, -3)$

45) through: $(0, 1)$ and $(-2, -4)$

46) through: $(-4, -3)$ and $(-4, 1)$

47) through: $(-2, 0)$ and $(0, 3)$

48) through: $(0, 1)$ and $(4, -4)$

49) through: $(0, 3)$ and $(5, -4)$

50) through: $(2, 4)$ and $(-5, 3)$

51) through: $(-5, -5)$ and $(5, -4)$

52) through: $(-1, 5)$ and $(-5, -1)$

53) through: $(-2, -5)$ and $(-2, -4)$

54) through: $(-5, 5)$ and $(2, -5)$

55) through: $(5, -4)$ and $(-5, -2)$

56) through: $(1, -3)$ and $(5, -5)$

57) through: $(4, -1)$ and $(-3, 3)$

58) through: $(-3, -2)$ and $(5, 3)$

59) through: $(4, -3)$ and $(0, 0)$

60) through: $(4, 5)$ and $(-3, 0)$

Solve each equation.

61) $37 - 5m = -7(m - 3) - 6m$

62) $8(n - 3) = -4 + 4n$

63) $-6(p - 4) = -11 - p$

64) $4(1 - 4x) + 4 = 35 - 7x$

65) $-(4b - 3) = 3 + 4b$

66) $-36 + 5n = -6n - 6(6 + 5n)$

67) $19 - 5x = 8(-5 - 8x)$

68) $37 + 7r = -6r - 6(-5r + 8)$

69) $n - 6 = 5n - 6(1 + 3n)$

70) $-5(1 + 3a) = -a - 19$

71) $10 + 5v = -3(v + 2)$

72) $-5(2x + 1) = -8x - 21$

73) $-3(4n + 1) = 17 + 8n$

74) $-6(1 - 7k) = 40 - 4k$

75) $-5(1 + p) + 8 = -9 + 7p$

76) $3x - 22 = -4(x + 1) + 4x$

77) $-14 - 4n = -2(n + 8)$

78) $-(1 + 8m) - 2 = 4m - 3$

79) $8(1 + 7x) = 8 + 7x$

80) $-5(8 + r) = 5r - 40$

81) $-4(7 + 8n) = 12 - 6(6 + 6n)$

82) $6x - 9x = -6(1 + 12x) + 12(3x - 5)$

83) $-7(1 - b) = 4(b + 5)$

84) $5(4 - 5v) = 5(-6v + 11)$

85) $4(1 + 2x) = 2(2 + 3x)$

86) $12a - 3(a - 4) = 3(a + 10)$

87) $-6(2n - 9) - 5n = 9(1 + 2n) + 10$

88) $-(1 + 12p) + 7 = 11(1 - p) + 3$

89) $-5(k - 5) - 12k = 6(1 - 3k)$

90) $-2(8x - 5) = 2(4x - 7)$

Sketch the graph of each line.

91) $y = -\frac{3}{5}x + 1$

92) $y = x + 2$

93) $y = \frac{2}{5}x - 2$

94) $y = -\frac{1}{5}x + 4$

95) $y = 8x - 5$

96) $y = -\frac{7}{3}x - 3$

97) $y = \frac{3}{2}x - 2$

98) $y = -5x$

99) $x = 4$

100) $x = 1$

Sketch the graph of each line (TIP: solve for y first).

101) $1 = -\frac{1}{5}y$

102) $-2 - \frac{2}{3}y = \frac{10}{3}x$

103) $-2y = -x$

104) $0 = 3x + 12y + 48$

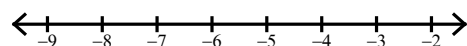
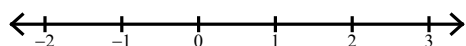
105) $-10 = 2x - 10y$

106) $6 - 2y = 6x$

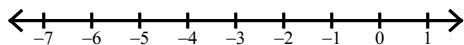
Solve each inequality and graph its solution.

107) $-4(x + 8) > -28 - 8x$

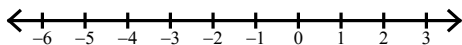
108) $-(1 + 7m) > 14 - 4m$



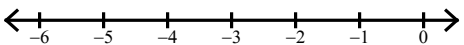
$$109) -2 - 3(1 + 7n) < 40 - 6n$$



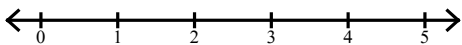
$$110) -8 - 8r > 3(8r + 8)$$



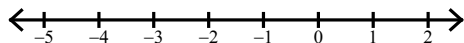
$$111) -2 + 5(-3x + 2) < x + 40$$



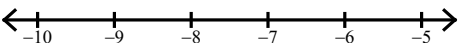
$$112) -2n + 18 \geq 2(-3 + 3n)$$



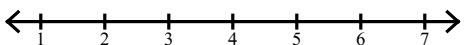
$$113) -(8 + 5b) \leq 8 + 3b$$



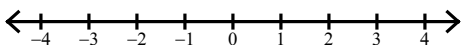
$$114) -40 + 7x \geq 8(x - 4)$$



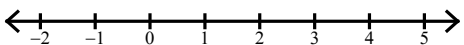
$$115) 3(5v + 1) > 36 + 4v$$



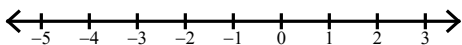
$$116) 37 - 7n > -8(n - 4) + 6$$



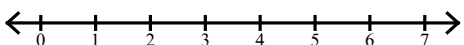
$$117) 4k + 27 < 8(4k + 3) + 3$$



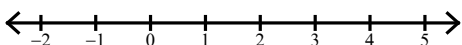
$$118) -4 + 6a \leq 2(a - 4)$$



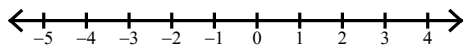
$$119) 38 + 4x > 2(3 + 6x)$$



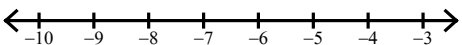
$$120) 35 - 5p \leq -p + 5(7 + 4p)$$



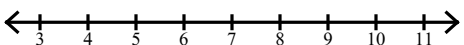
$$121) -2(3n + 7) < -7n - 15$$



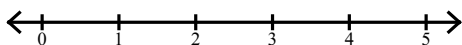
$$122) -11 - 7m < -8(m + 2)$$



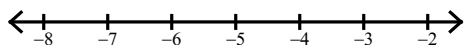
$$123) -17 - 8x \leq -5(1 + 2x)$$



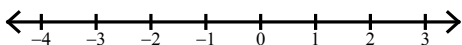
$$124) -8r - 7(1 + 2r) > -39 - 6r$$



$$125) 4b - (8b - 3) \leq -7b - 12$$



$$126) 5n - 8 \leq 2(2n - 4) - n$$



Solve each system.

$$127) \begin{aligned} -3x + 9y &= 12 \\ -4x - 3y &= 1 \end{aligned}$$

$$128) \begin{aligned} -2x - 7y &= 20 \\ 10x + 14y &= -16 \end{aligned}$$

$$129) \begin{aligned} -7x - 4y &= 20 \\ 10x + 8y &= -8 \end{aligned}$$

$$130) \begin{aligned} -2x + 2y &= -4 \\ 5x - 8y &= -5 \end{aligned}$$

$$\begin{aligned} 131) \quad & 5x + 3y = 15 \\ & -10x - 8y = -10 \end{aligned}$$

$$\begin{aligned} 132) \quad & 3x + 4y = 7 \\ & 2x + 8y = -22 \end{aligned}$$

$$\begin{aligned} 133) \quad & -3x - 3y = -18 \\ & -6x + 4y = -26 \end{aligned}$$

$$\begin{aligned} 134) \quad & 10x + 7y = -30 \\ & -5x + y = -30 \end{aligned}$$

$$\begin{aligned} 135) \quad & -3x - 4y = -1 \\ & 9x - 3y = -12 \end{aligned}$$

$$\begin{aligned} 136) \quad & 2x + 6y = 4 \\ & -6x + 4y = -12 \end{aligned}$$

$$\begin{aligned} 137) \quad & 4x + 3y = -2 \\ & y = -3x - 4 \end{aligned}$$

$$\begin{aligned} 138) \quad & y = 4x + 7 \\ & 3x - 3y = -12 \end{aligned}$$

$$\begin{aligned} 139) \quad & y = 7x + 19 \\ & -7x - y = 23 \end{aligned}$$

$$\begin{aligned} 140) \quad & 2x - 5y = -6 \\ & y = 3x + 9 \end{aligned}$$

$$\begin{aligned} 141) \quad & y = 7x - 5 \\ & 7x - 4y = -1 \end{aligned}$$

$$\begin{aligned} 142) \quad & y = 3x \\ & -4x + 3y = -5 \end{aligned}$$

$$\begin{aligned} 143) \quad & y = 3x - 17 \\ & -4x - 3y = 12 \end{aligned}$$

$$\begin{aligned} 144) \quad & 6x - 7y = -1 \\ & y = 3x - 17 \end{aligned}$$

$$\begin{aligned} 145) \quad & y = -5x + 19 \\ & 5x + 4y = 1 \end{aligned}$$

$$\begin{aligned} 146) \quad & y = 5x - 3 \\ & -8x - 6y = 18 \end{aligned}$$

Solve using a system of linear equations.

147) Find the value of two numbers if their sum is 19 and their difference is 1.

148) The difference of two numbers is 2. Their sum is 26. What are the numbers?

149) Find the value of two numbers if their sum is 22 and their difference is 6.

150) The difference of two numbers is 5. Their sum is 21. Find the numbers.

151) The sum of two numbers is 23. Their difference is 5. Find the numbers.

152) Find the value of two numbers if their sum is 25 and their difference is 1.