

The information in this assignment will be assessed during the first week of school. While minimal review of some topics can be acceptable, copious amounts of class time will NOT be used for basic review topics. You should organize your work on a separate sheet of paper and put only simplified answers on this sheet.

Simplify. Your answer should contain only positive exponents.

1) $4a^4b^4 \cdot 4a^2b^4$

2) $2x^3 \cdot x^{-2}y^2$

3) $(3a^4)^{-3}$

4) $(ba^2)^4$

5) $\frac{2x^4y^{-2}}{4y}$

6) $\frac{4a^{-1}}{4a^4b^{-1}}$

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

8) $\frac{y}{(2x^4y^0)^3 \cdot x^4y^4}$

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

9) Slope = $\frac{9}{5}$, y-intercept = -5

Write the slope-intercept form of the equation for each set of conditions.

10) $x - y = 0$

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

12) through: $(-2, -1)$, slope = $-\frac{3}{2}$

13) through: $(2, 2)$ and $(4, 4)$

14) through: $(1, 5)$, parallel to $y = 10x + 4$

15) through: $(-1, -5)$, perp. to $y = -\frac{2}{7}x + 1$

Solve each equation for the indicated variable.

16) $\frac{k}{x} = v + w$, for x

17) $k + x = v + w$, for x

18) $uka = a + b$, for a

19) $u + ka = ba$, for a

Solve each equation.

20) $6 = 3(2 + 6x) - 6(2x - 1)$

21) $6(a + 2) + 3(5 - 2a) = -1$

22) $4(-6n + 2) = 4(1 - 6n) + 4$

23) $2(7 + 3m) - 6m = -7(m + 2)$

24) $\frac{19}{7}\left(\frac{10}{7}a + \frac{5}{2}\right) + \frac{34}{7} = -\frac{3}{4}\left(\frac{3}{2}a - \frac{3}{2}\right)$

Solve each system of linear equations using graphing, substitution and elimination.

25) $-x - 2y + 4 = 0$
 $-3 = 3x + y$

26) $-8x + 2y = 20$
 $3x - 3y = -21$

27) $42x - 24y = 12$
 $63x - 36y = 18$

28) The senior classes at High School A and High School B planned separate trips to the state fair. The senior class at High School A rented and filled 11 vans and 3 buses with 237 students. High School B rented and filled 2 vans and 9 buses with 246 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

Solve each equation by factoring.

29) $(r - 5)(7r - 3) = 0$

30) $x^2 + 5x - 16 = 8$

31) $x^2 = 4$

32) $49x^2 + 49x + 12 = 0$

33) $8n^2 - 23n + 14 = 0$

34) $2v^2 - 7v + 3 = 0$

Solve each equation by completing the square.

35) $n^2 + 10n + 21 = 0$

36) $n^2 - 8n + 44 = 0$

37) $8x^2 - 16x - 10 = 0$

38) $3v^2 + 18v + 91 = 0$

Solve each equation with the quadratic formula.

39) $-a^2 - 3a + 15 = 0$

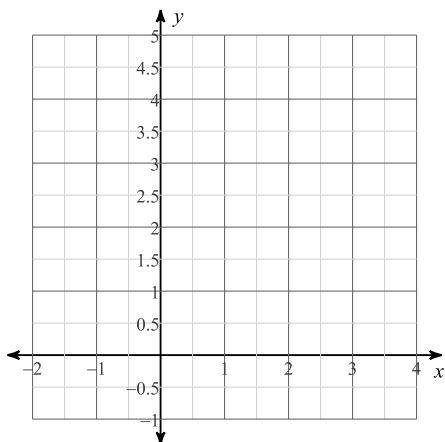
40) $-4x^2 = -4$

41) $4p^2 = 23$

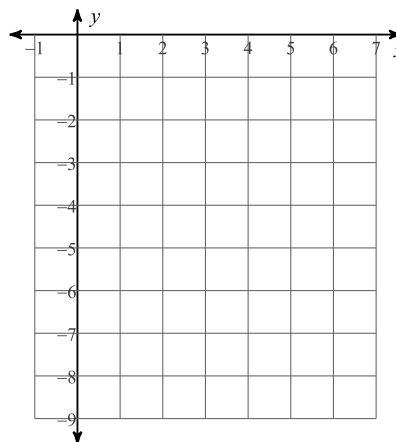
42) $-9n^2 = 5n - 15$

Sketch the graph of each function.

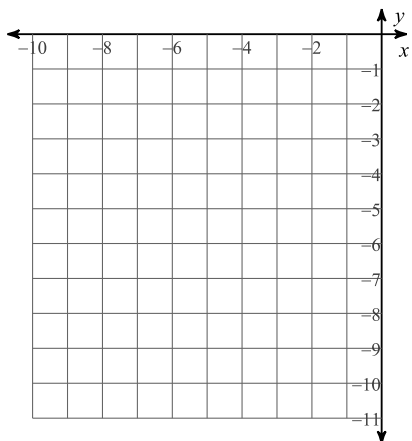
43) $y = -x^2 + 4x$



44) $y = -x^2 + 6x - 13$

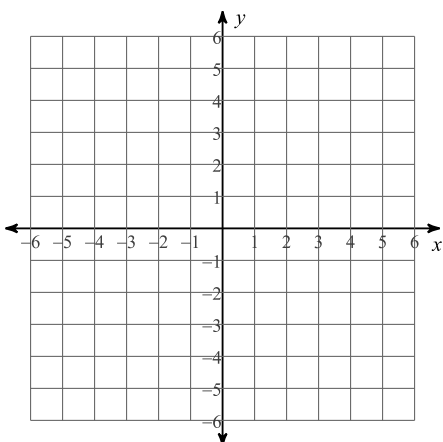


45) $y = -2(x + 3)^2 - 2$



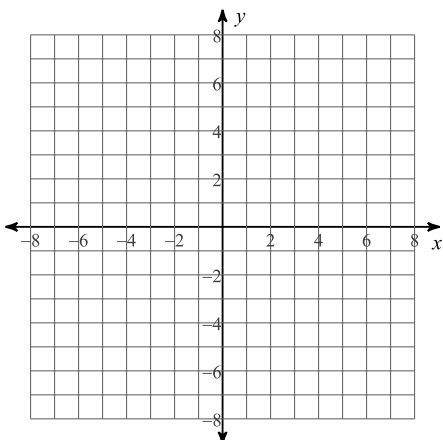
Graph each equation.

46) $y = 3|x + 3| + 1$



Identify the domain and range of each. Then sketch the graph.

47) $y = 3 + \sqrt{x + 3}$



Evaluate each function.

48) $p(a) = -a^3 - 5$; Find $p(-4)$

49) $f(n) = 3n - 5$; Find $f(2)$

Perform the indicated operation.

50) $h(a) = a^3 - 4a^2$
 $g(a) = -4a - 4$
Find $(h + g)(-4)$

51) $f(a) = a^2 - 3$
 $g(a) = 4a + 2$
Find $(f - g)(6)$

52) $f(x) = 2x - 4$
 $g(x) = x^2 - 2x$
 Find $(f \cdot g)(5)$

53) $f(x) = 2x + 2$
 $g(x) = 2x - 5$
 Find $\left(\frac{f}{g}\right)(6)$

54) $f(x) = 2x - 4$
 $g(x) = x^2 + 3$
 Find $(f \circ g)(5)$

55) $g(a) = 4a + 4$
 $f(a) = a^2 - 3a$
 Find $(g \circ f)(a)$

56) $g(n) = 3n - 3$
 $f(n) = -n^3 - n$
 Find $(4g + f)(n)$

Find the inverse of each function.

57) $g(x) = (x + 2)^3 + 3$

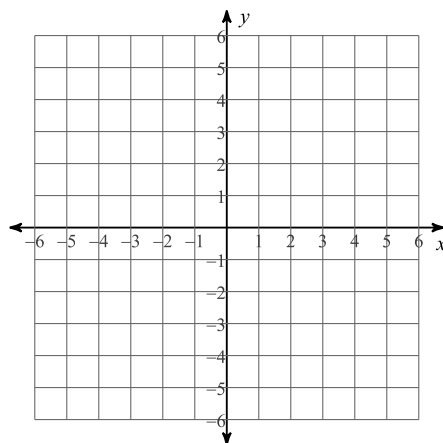
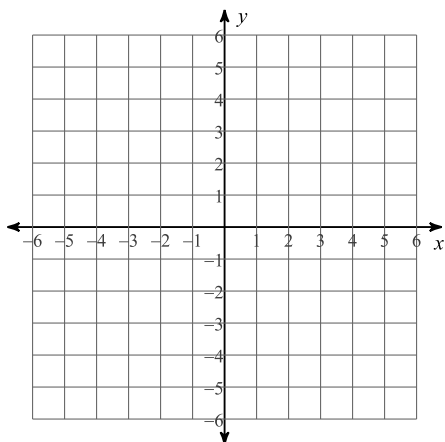
58) $f(x) = -\frac{3}{2}x + \frac{9}{2}$

59) $f(x) = \frac{2}{x + 3} + 2$

Find the inverse of each function. Then graph the function and its inverse.

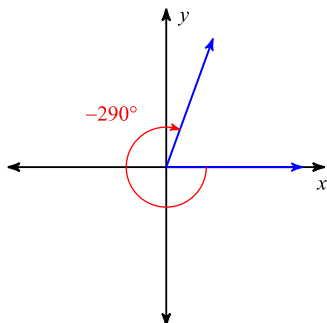
60) $g(x) = 8x + 3$

61) $f(x) = \frac{-x - 3}{7}$

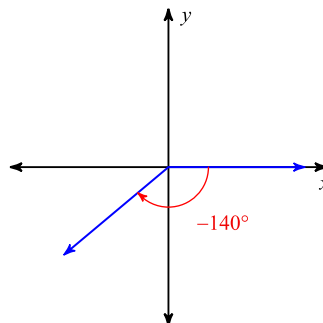


Find the reference angle.

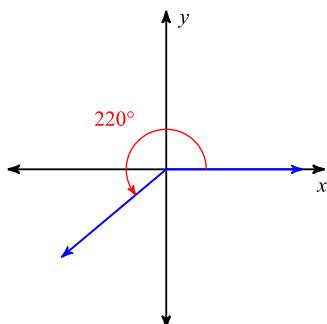
62)



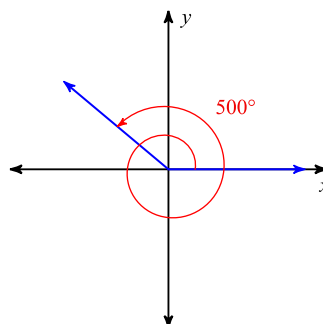
63)



64)



65)



Convert each degree measure into radians.

66) 230°

67) 405°

68) 60°

69) 210°

Convert each radian measure into degrees.

70) $\frac{7\pi}{4}$

71) $\frac{7\pi}{9}$

72) $\frac{29\pi}{12}$

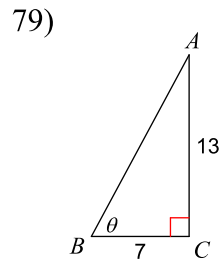
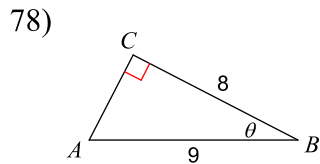
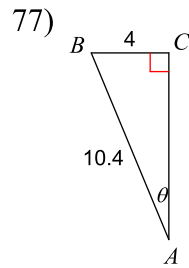
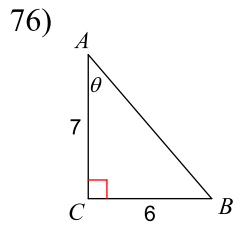
73) $\frac{11\pi}{6}$

Use the given point on the terminal side of angle θ to find the value of the trigonometric function indicated.

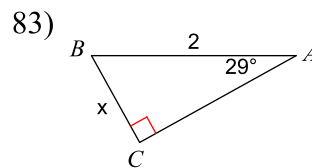
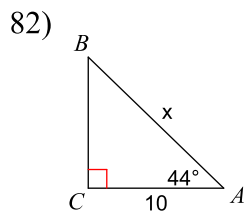
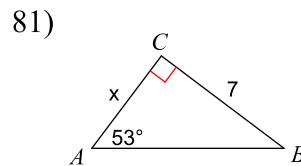
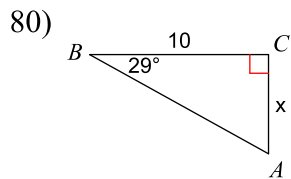
74) $\cos \theta; (\sqrt{5}, 2)$

75) $\cos \theta; (\sqrt{15}, -7)$

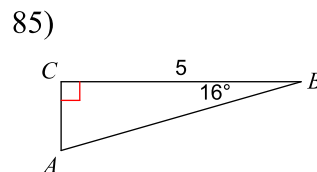
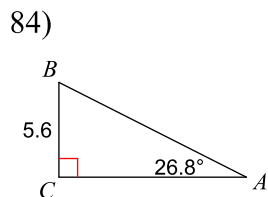
Find the measure of each angle indicated. Round to the nearest tenth.



Find the measure of each side indicated. Round to the nearest tenth.



Solve each triangle. Round answers to the nearest tenth.



Find the value of the trig function indicated.

86) Find $\sin \theta$ if $\csc \theta = \frac{5}{4}$

87) Find $\sin \theta$ if $\cos \theta = \frac{3}{5}$

88) Find $\tan \theta$ if $\sec \theta = \frac{\sqrt{13}}{3}$

89) Find $\csc \theta$ if $\sec \theta = \frac{5}{3}$

Find the exact value of each trigonometric function. You should NOT need a calculator for this section. HINT: Think through the unit circle.

90) $\cos -45^\circ$

91) $\sin -240^\circ$

92) $\sin 330^\circ$

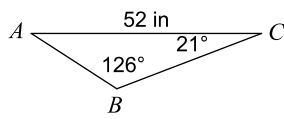
93) $\tan -30^\circ$

94) $\sin -300^\circ$

95) $\cos -330^\circ$

Find each measurement indicated. Round your answers to the nearest tenth.

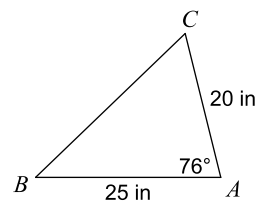
96) Find AB



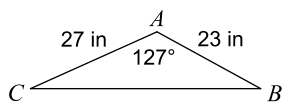
97) $m\angle A = 47^\circ$, $c = 4$ in, $a = 6$ in
Find $m\angle C$

98) $m\angle A = 26^\circ$, $c = 32$ km, $a = 20$ km
Find $m\angle B$

99) Find BC



100) Find $m\angle B$



In addition to the skills reviewed on this assignment, students must also have the following formulas memorized. An understanding of when and how to use them is assumed.

101) Slope, slope y intercept, point-slope form, vertex form of a quadratic, general form of a quadratic, distance formula, midpoint formula, pythagorean theorem, trigonometric ratios, law of sines, law of cosines.