SUMMER WORK STUDENTS ENTERING ADV ALG / FIN APPS

SUMMER WORK-SHOW YOUR WORK!!

Solve each equation.

1) $14 + 6r = 2(r + 7)$

2) $12(1 - 9x) = -8(11 + x)$

3) $-8 = 8(8 + 2x) - (x - 3)$

4) $7(1 + x) = 16 + 4x$

5) $7(4 + 10x) = -8(-1 - 9x)$

6) $-\frac{3}{2}n + \frac{5}{3}n = \frac{1}{18}$

7) $\frac{5}{3}x + 2 + 2x = -\frac{4}{9}$

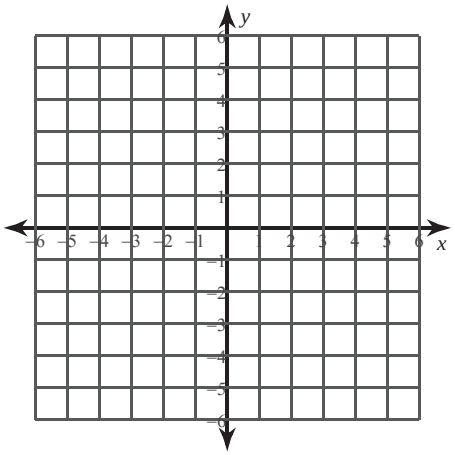
8) $-2 - \frac{7}{2}\left(-\frac{7}{3}p + \frac{5}{3}\right) = -\frac{631}{18}$

9) $-1.83 = -1.2 - 1.7n + 0.8n$

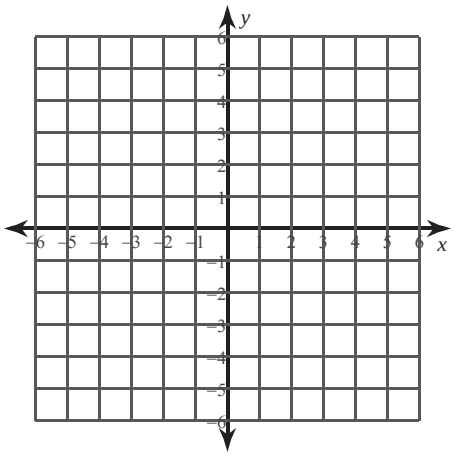
10) $-0.5m - 2.6m = 5.28 + 1.7m$

Sketch the graph of each line.

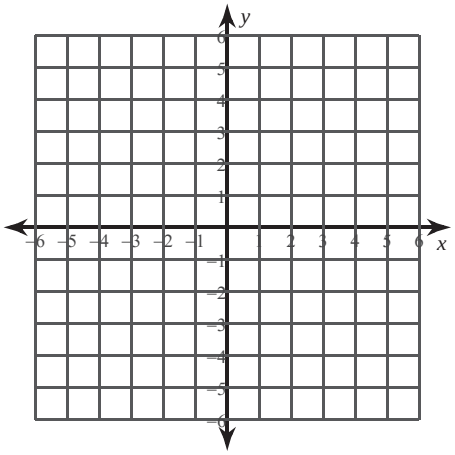
11) x-intercept = –2, y-intercept = –4



12) $y = -\frac{1}{2}x + 1$

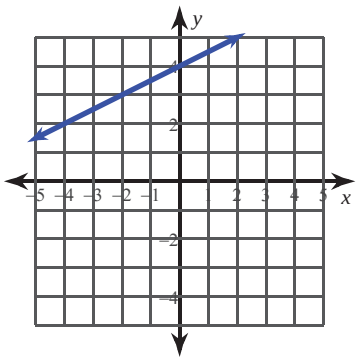


13) $4x - y = 4$



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

14)



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

15) Slope = $-\frac{7}{3}$, y-intercept = –4

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

16) $x - 3y = -9$

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

17) through: $(-2, -5)$, slope = 2

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

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

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

19) through: $(4, -2)$, parallel to $y = -\frac{3}{4}x + 5$

20) through: $(5, -4)$, perp. to $y = \frac{5}{4}x - 4$

Solve each equation by factoring.

21) $(x + 3)^2 = 0$

22) $k^2 + 2k = 3$

23) $3x^2 + 45x + 170 = 2$

24) $5k^2 - 3k = 14$

Solve each equation with the quadratic formula.

25) $x^2 - 3x - 4 = 0$

26) $3p^2 = -p + 1$

Solve each equation by completing the square.

27) $x^2 + 14x - 51 = 0$

28) $m^2 - 8m + 12 = -3$

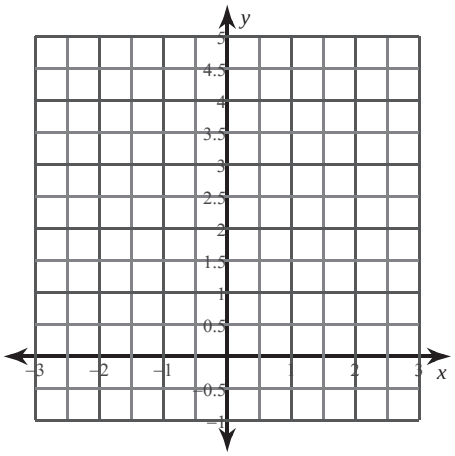
Solve each equation by taking square roots.

29) $-3k^2 = -165$

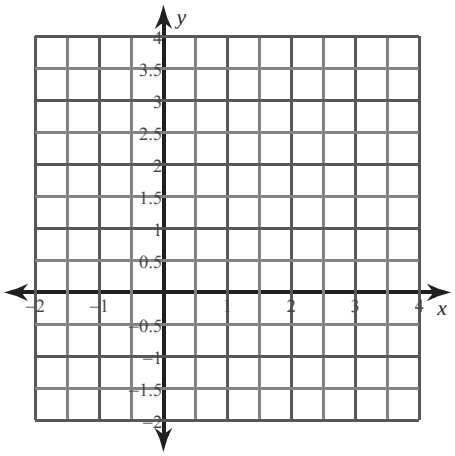
30) $5x^2 - 5 = 15$

Sketch the graph of each function.

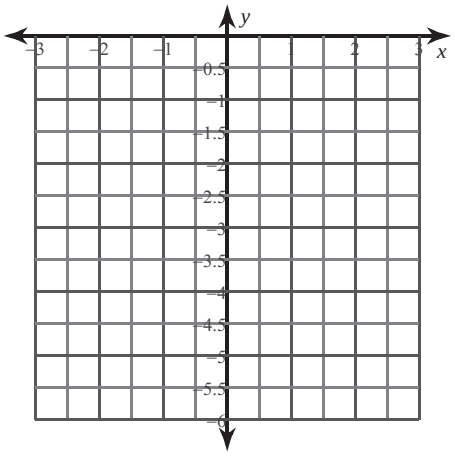
31) $y = x^2$



32) $y = x^2 - 4x + 3$



33) $y = -(x + 1)^2 - 1$

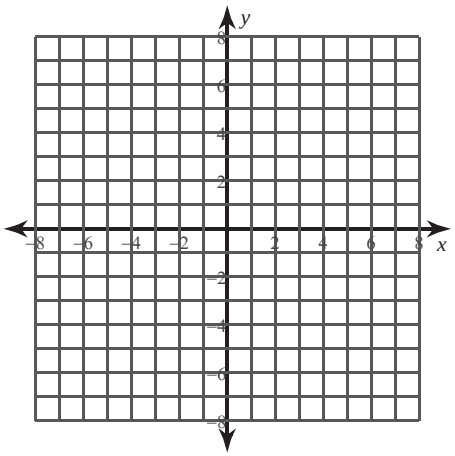


Find the value of the discriminant of each quadratic equation.

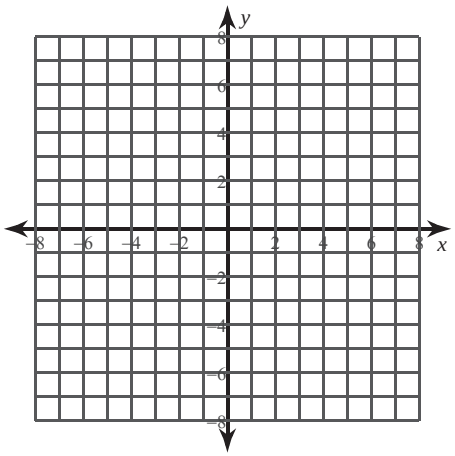
34) $-4r^2 + r - 6 = 0$

Identify the vertex and axis of symmetry of each. Then sketch the graph.

35) $y = 2x^2 + 16x + 28$



36) $y = x^2 - 4$



Identify the vertex of each.

37) $y = 2x^2 - 5$

38) $y = -6x^2 - 36x - 48$

39) $y = -3(x - 9)^2 - 10$

40) $y = -15(x + 1)^2 + 6$

Evaluate each function.

41) $w(x) = -4x + 4$; Find $w(6)$

42) $f(n) = 3^n$; Find $f(1)$

43) $g(x) = |x|$; Find $g(2x)$

Perform the indicated operation.

44) $f(x) = 3x - 2$
$g(x) = x^3 - 1$
Find $(f + g)(-1)$

45) $f(x) = 2x + 5$
$g(x) = -x + 2$
Find $(f - g)(10)$

46) $f(x) = x^2 + 3x$
$g(x) = 2x + 2$
Find $(f \cdot g)(-3)$

47) $f(x) = 2x$
$g(x) = 4x - 3$
Find $\left(\frac{f}{g}\right)(-9)$

48) $f(x) = 4x$
$g(x) = x - 4$
Find $(f \circ g)(x)$

49) $g(x) = x^2 + 4$
$h(x) = 4x - 3$
Find $(g \circ h)(x)$

50) $f(x) = -2x - 5$
$g(x) = x^3 - 5x$
Find $(f \circ g)(-1)$