

**Honors Algebra II Summer Review****Simplify each expression.**

1)  $8(3k - 3) - 4k(8k + 4)$

2)  $-6x(4x - 5) + 6x(5x + 5)$

**Solve each equation.**

3)  $-19 + 5a = 4(a - 3)$

4)  $3(6r - 6) - 6r = 8r - 34$

5)  $-6n - 2(-4n + 2) = 4n + 4$

6)  $-6(1 - 8k) = 378$

7)  $-7.8(r + 7.5) = -116.22$

8)  $4(-5.98 - 2.6r) = -92.56$

**Evaluate each function.**

9)  $f(a) = -2|a| - 3$ ; Find  $f(-4)$

10)  $w(n) = n^2 - n$ ; Find  $w(6)$

11)  $h(x) = x^2 + 4x$ ; Find  $h(9)$

**Find each product.**

12)  $(-3m - 5)(7m - 7)$

13)  $(6n - 2)(-4n - 5)$

14)  $(x^2 + 6x + 5)(-2x - 8)$

**Factor each completely.**

15)  $x^4 - 2x^3$

16)  $m^2 - 7m - 18$

17)  $a^2 - 6a - 40$

18)  $3x^2 - 20x + 12$

19)  $12n^2 - 52n + 48$

**Factor each completely. (special cases)**

20)  $4p^2 + 4p + 1$

21)  $16a^2 - 25$

22)  $9x^2 + 12x + 4$

**Simplify each expression.**

23)  $(6p^4 + 8 - 5p^2) + (3p^4 - 1 + p^2)$

24)  $(7a + 6 - 7a^2) - (a^2 - 1 - 2a)$

**Simplify.**

25)  $\sqrt{294}$

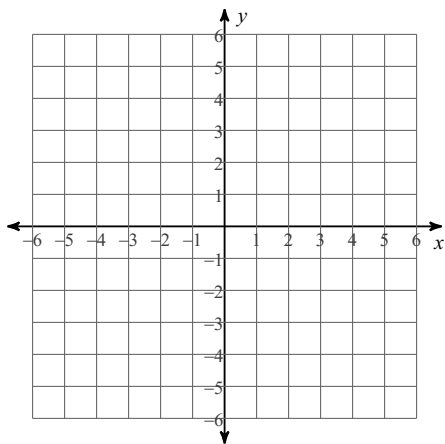
26)  $\sqrt{108}$

27)  $-2\sqrt{75}$

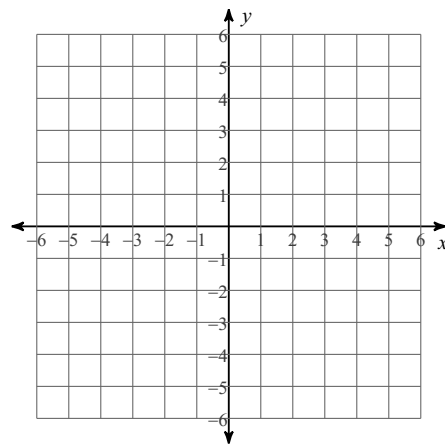
28)  $3\sqrt{72}$

Sketch the graph of each line.

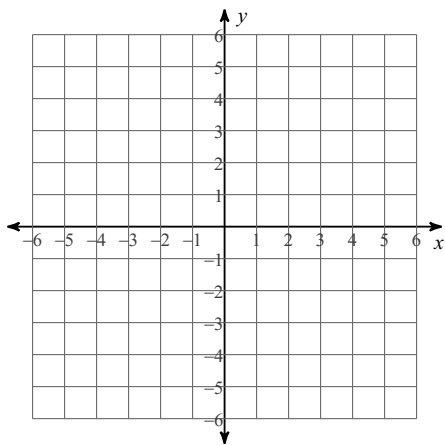
29)  $x - 3y = 0$



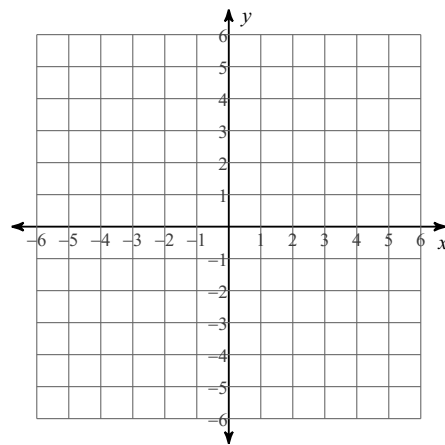
30)  $x - 5y = -10$



31)  $x + 2y = -10$

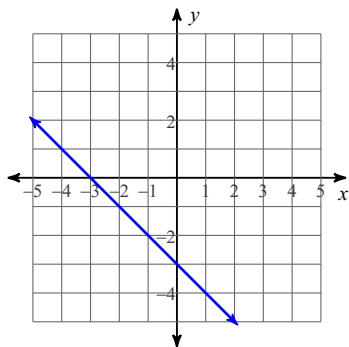


32)  $2x - 3y = 15$

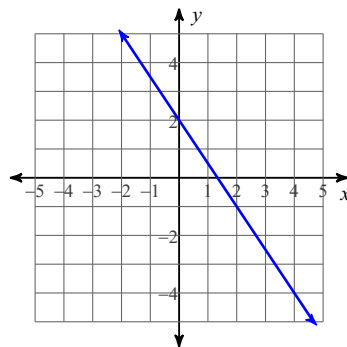


Write the slope-intercept form of the equation of each line.

33)



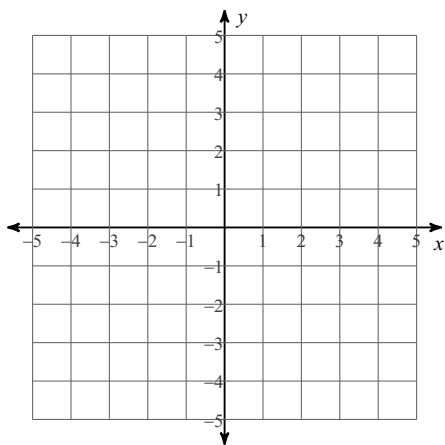
34)



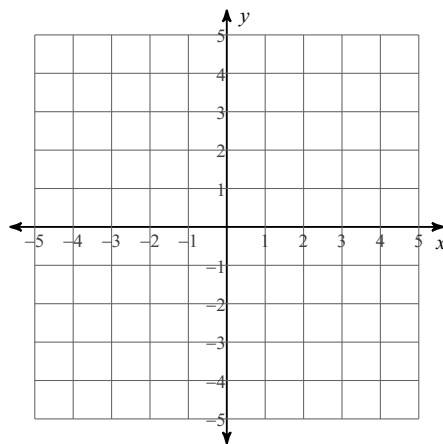
Solve each system by graphing.

35)  $y = \frac{1}{3}x + 3$

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

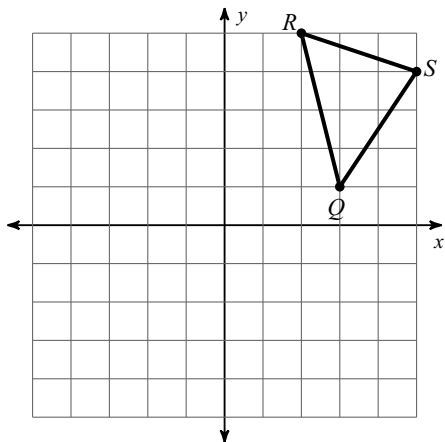


36)  $y = -x + 3$   
 $y = -5x - 1$

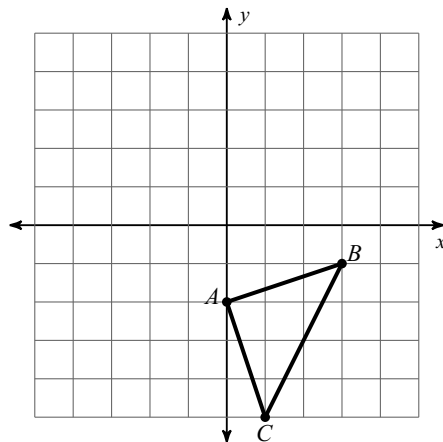


Graph the image of the figure using the transformation given.

37) translation: 1 unit left and 5 units down

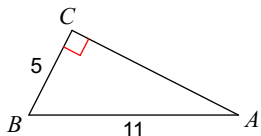


38) reflection across the x-axis

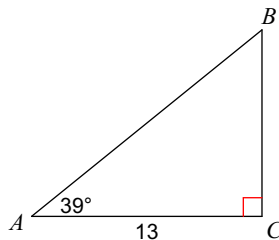


Solve each triangle (find each missing side AND angles). Round answers to the nearest tenth.

39)



40)



Solve each quadratic equation by factoring.

41)  $x^2 + 2x = 8$

42)  $k^2 = 13k - 42$

Solve each quadratic equation by completing the square.

43)  $m^2 + 20m + 58 = -6$

44)  $x^2 + 16x + 63 = 3$

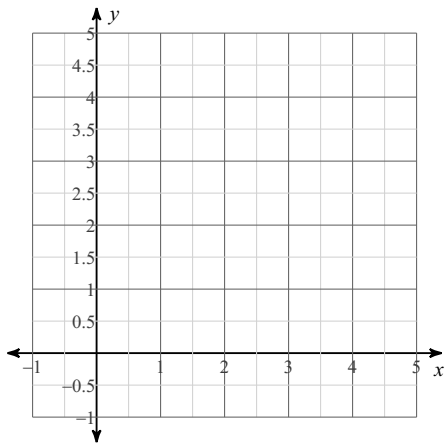
Solve each quadratic equation with the quadratic formula.

45)  $3x^2 = 4x + 32$

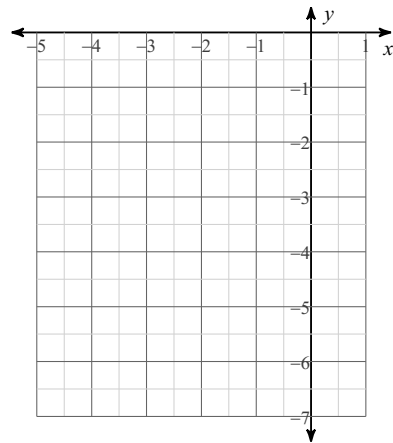
46)  $12a^2 - 13 = 0$

Sketch the graph of each function.

47)  $y = -x^2 + 2x + 3$



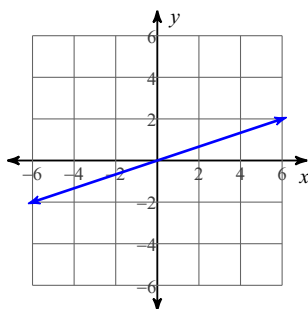
48)  $y = -x^2 - 6x - 11$



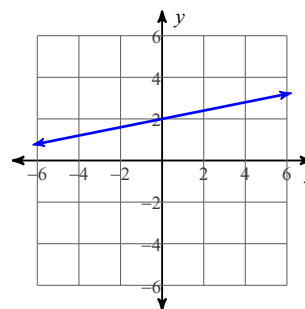


## Answers to Honors Algebra II Summer Review

- |                         |                                |                       |                         |
|-------------------------|--------------------------------|-----------------------|-------------------------|
| 1) $8k - 24 - 32k^2$    | 2) $6x^2 + 60x$                | 3) $\{7\}$            | 4) $\{-4\}$             |
| 5) $\{-4\}$             | 6) $\{8\}$                     | 7) $\{7.4\}$          | 8) $\{6.6\}$            |
| 9) $-11$                | 10) $30$                       | 11) $117$             | 12) $-21m^2 - 14m + 35$ |
| 13) $-24n^2 - 22n + 10$ | 14) $-2x^3 - 20x^2 - 58x - 40$ | 15) $x^3(x - 2)$      |                         |
| 16) $(m + 2)(m - 9)$    | 17) $(a + 4)(a - 10)$          | 18) $(3x - 2)(x - 6)$ | 19) $4(3n - 4)(n - 3)$  |
| 20) $(2p + 1)^2$        | 21) $(4a + 5)(4a - 5)$         | 22) $(3x + 2)^2$      | 23) $9p^4 - 4p^2 + 7$   |
| 24) $-8a^2 + 9a + 7$    | 25) $7\sqrt{6}$                | 26) $6\sqrt{3}$       | 27) $-10\sqrt{3}$       |
| 28) $18\sqrt{2}$        | 29)                            | 30)                   |                         |

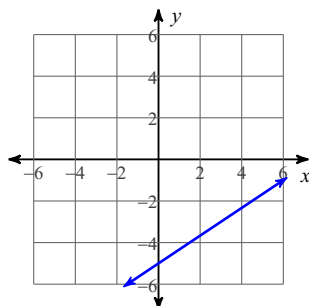
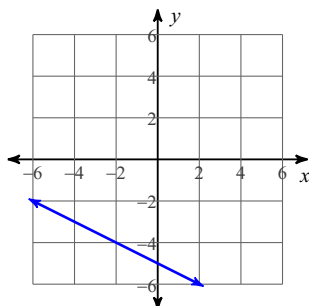


32)



33)  $y = -x - 3$

31)

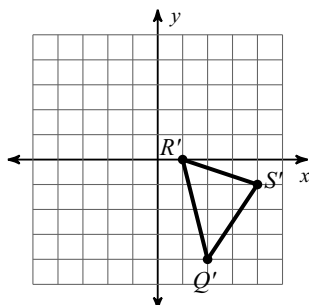


35)  $(3, 4)$

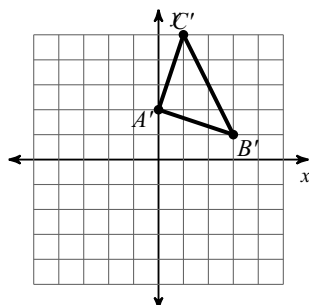
36)  $(-1, 4)$

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

37)



38)



39)  $m\angle A = 27^\circ$ ,  $m\angle B = 63^\circ$ ,  $b = 9.8$

40)  $m\angle B = 51^\circ$ ,  $a = 10.5$ ,  $c = 16.7$

41)  $\{2, -4\}$

42)  $\{6, 7\}$

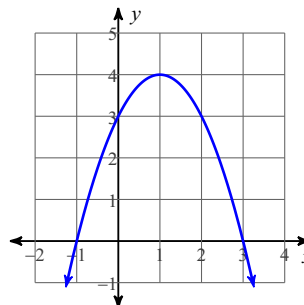
43)  $\{-4, -16\}$

44)  $\{-6, -10\}$

45)  $\left\{4, -\frac{8}{3}\right\}$

46)  $\left\{\frac{\sqrt{39}}{6}, -\frac{\sqrt{39}}{6}\right\}$

47)



48)

