## **Exercise Set 2 (Calculator)**

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If x > 0 and  $2x^2 - 4x = 30$ , what is the value of x?



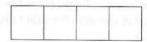
14

If  $x^2 + bx + 9 = 0$  has only one solution, and b > 0, what is the value of b?



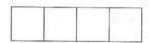
15

When y = 5(x - 3.2)(x - 4.6) is graphed in the *xy*-plane, what is the value of the *y*-intercept?



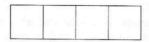
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When y = 5(x - 3.2)(x - 4.6) is graphed in the *xy*-plane, what is the *x*-coordinate of the vertex?



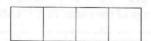
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If  $(2x-1)(x+3) + 2x = 2x^2 + kx - 3$  for all values of x, what is the value of k?



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If  $b^2 + 20b = 96$  and b > 0, what is the value of b + 10?



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The graph of y = f(x) in the xy-plane is a parabola with vertex at (3, 7). Which of the following must be equal to f(-1)?

- A) f(2)
- B) f(4)
- C) f(7)
- D) f(15)

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Which of the following functions, when graphed in the *xy*-plane, has two positive *x*-intercepts and a negative *y*-intercept?

- A) y = -2(x-1)(x+5)
- B)  $y = -2(x+3)^2$
- C)  $y = -2(x-5)^2$
- D) y = -2(x-1)(x-5)

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Which of the following equations has no real solutions?

- A)  $x^2 3x + 2 = 0$
- B)  $x^2 3x 2 = 0$
- C)  $x^2 + 2x 3 = 0$
- D)  $x^2 + 2x + 3 = 0$

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The graph of the function y = a(x + 6)(x + 8) has an axis of symmetry at x = k. What is the value of k?

- A) -7
- B) -6
- C) 7
- D) 8

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The graph of the quadratic function y = f(x) in the xy-plane is a parabola with vertex at (6, -1). Which of the following must have the same value as the y-intercept of this graph?

- A) f(-2)
- B) f(3.5)
- C) f(12)
- D) f(13.5)