

Name: _____

1.1-1.4 Review

Each question should be done without a calculator unless there is a 'C' next to the number.

1. For each equation, a) check for symmetry, b) find the x and y intercepts, c) sketch a graph.

a) $xy^2 + 10 = 0$

b) $xy = 7$

c) $x^2 + y^2 = 17$

d) $y + |x| = 2$

2. Write the equation of a circle with the given information.

a) Center $(-1, 8)$ solution point $(4, 2)$

b) Endpoints of diameter $(-11, 5)$ and $(-5, -3)$

3. Write an example of an equation that is a(n):

a) identity

b) conditional

c) contradiction

4. Solve each equation for x.

a) $\frac{3x}{2} + \frac{1}{4}(x-2) = 10$

b) $\frac{x}{5} - \frac{x}{2} = 3 + \frac{3x}{10}$

5. Solve each equation for x.

a) $\frac{7}{2x+1} - \frac{8x}{2x-1} = -4$

b) $\frac{6}{x} - \frac{2}{x+3} = \frac{3(x+5)}{x^2+3x}$

6. Solve each equation for x.

a) $-5(3x - 6b) + 12 = 8 + 3ax$

b) $\frac{4}{5}x - ax = 2\left(\frac{2}{5}x - 1\right) + 10$

7. Solve each quadratic for x by factoring.

a) $1 = 16x^2$

b) $x^2 - 25x - 30 = -(6x + x^2 - 3)$

8. Solve each quadratic for x by extracting square roots.

a) $(x+2)^2 = (x-12)^2$

b) $30 = (x-5)^2$

9. Solve each quadratic for x by completing the square.

a) $6x^2 + 24x + 3 = 8$

b) $14 + 12x = 9x^2$

10. C. Solve each quadratic by graphing.

a) $(x-4)^2 - 1 = 6$

b) $-0.005x^2 + 0.101x - 0.193 = 0$

11. Solve each quadratic using the quadratic formula.

a) $4(x-2)^2 + 4(x-2) = 7$

b) $3x + x^2 = 1$

12. Write a quadratic that has the given solutions.

a) $x = 0, -11$

b) $x = 2/3, -7/5$

13. Which of these things is not like the other?

x-intercept

roots

y-intercepts

solutions

14. Find all values for b that will give the quadratic a) 2 solutions, b) 1 solution, c) 0 solutions.

a) $2x^2 - bx - 9 = 0$

b) $bx = 4 - x^2$

15. C. Word Problems. Look at the word problems from the notes and the practice problem set you got when we did section 1.3 (questions and answers can be found on scevmath.org). In addition, here are some textbook word problems.

p. 105, 51, 52, 55, 56, 57, 58, 59, 60, 72, 73, 74, 75

p. 120, 114, 117, 120, 121, 122, 123