1. **(1 pt) local/development/quadratics_opposite_roots.pg**
Solve the equation.

$$0 = \frac{64}{y} - y$$

Solutions (separate by commas): $y =$ _____

Solve the equation.

$$1 - \frac{100}{n^2} = 0$$

Solutions (separate by commas): $n =$ _____

Solve the equation.

$$-\frac{28}{a+6} = 6 - a$$

Solutions (separate by commas): $a =$ _____

Solve the equation.

$$\frac{75}{(x+10)^2} + 1 = \frac{20}{x+10}$$

Solutions (separate by commas): $x =$ _____

Solve the equation.

$$1 - \frac{24}{(x-1)(x+2)} = \frac{1}{x+2}$$

Solutions (separate by commas): $x =$ _____

Solve the equation.

$$-\frac{5}{y} = -\left(1 + \frac{9}{(y+5)y}\right)$$

Solutions (separate by commas): $y =$ _____

Solve the equation.

$$1 = -\frac{16}{y^2 - 25}$$

Solutions (separate by commas): $y =$ _____

Solve the equation.

$$-\tfrac{1}{2} = -\left(\frac{10}{n+27} + \frac{6}{n+5}\right)$$

Solutions (separate by commas): $n =$ _____

Correct Answers:

- -8, 8
- 10, -10
- -8, 8
- 5, -5
- 5, -5
- -4, 4
- 3, -3
- 17, -17

2. **(1 pt) local/development/quadratics_one_root_zero.pg**
Solve the equation.

$$\frac{126}{(y+9)^2} - \frac{23}{y+9} = -1$$

Solutions (separate by commas): $y =$ _____

Solve the equation.

$$\frac{21}{(y+7)(y-1)} - \frac{2}{y-1} = -1$$

Solutions (separate by commas): $y =$ _____

Solve the equation.

$$0 = -\left(1 + \frac{27}{a^2 - 81} + \frac{6}{a-9}\right)$$

Solutions (separate by commas): $a =$ _____

Solve the equation.

$$\frac{3}{a-6} = \tfrac{1}{2} - \frac{3}{a+3}$$

Solutions (separate by commas): $a =$ _____

Correct Answers:

- 5, 0
- -4, 0
- -6, 0
- 15, 0

3. **(1 pt) local/development/quadratics_same_roots.pg**

Solve the equation.

$$\frac{36}{n} = 12 - n$$

Solutions (identical roots - only enter one value): $n =$ _____

Solve the equation.

$$-\frac{4}{n} = -\left(1 + \frac{4}{n^2}\right)$$

Solutions (identical roots - only enter one value): $n =$ _____

Solve the equation.

$$-9 = -\left(a + \frac{49}{a+5}\right)$$

Solutions (identical roots - only enter one value): $a =$ _____

Solve the equation.

$$\frac{100}{(a+3)^2} = \frac{20}{a+3} - 1$$

Solutions (identical roots - only enter one value): $a =$ _____

Solve the equation.

$$\frac{289}{(n+8)(n+2)} + 1 = \frac{28}{n+2}$$

Solutions (identical roots - only enter one value): $n =$ _____

Solve the equation.

$$1 + \frac{17}{y} = -\frac{81}{(y-1)y}$$

Solutions (identical roots - only enter one value): $y =$ _____

Solve the equation.

$$\frac{144}{y^2 - 49} - \frac{10}{y-7} = -1$$

Solutions (identical roots - only enter one value): $y =$ _____

Correct Answers:

- 6
- 2
- 2
- 7
- 9
- -8
- 5

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4. **(1 pt) local/development/quadratics_two_roots.pg**

Solve the equation.

$$a - \frac{18}{a} = -3$$

Solutions (separate by commas): $a =$ _____

Solve the equation.

$$\frac{45}{n^2} = -\left(\frac{14}{n} + 1\right)$$

Solutions (separate by commas): $n =$ _____

Solve the equation.

$$\frac{12}{n-4} - 11 = -n$$

Solutions (separate by commas): $n =$ _____

Solve the equation.

$$1 + \frac{4}{x-8} = \frac{5}{(x-8)^2}$$

Solutions (separate by commas): $x =$ _____

Solve the equation.

$$\frac{10}{(n-3)(n-4)} + \frac{12}{n-4} = -1$$

Solutions (separate by commas): $n =$ _____

Solve the equation.

$$\frac{12}{(y+9)y} + 1 = -\frac{1}{y}$$

Solutions (separate by commas): $y =$ _____

Solve the equation.

$$-\frac{21}{a^2 - 1} = \frac{6}{a+1} - 1$$

Solutions (separate by commas): $a =$ _____

Solve the equation.

$$\frac{1}{x+24} = \frac{1}{5} - \frac{1}{x}$$

Solutions (separate by commas): $x =$ _____

Correct Answers:

- -6, 3
- -5, -9
- 7, 8

- 3, 9
- 2, -7
- -3, -7
- 8, -2
- 6, -20

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5. **(1 pt) local/development/quadratics_extraneous.pg**

Solve the equation.

$$1-\frac{14}{y-3}=-\frac{126}{(y+6)(y-3)}$$

Solutions (separate by commas): $y=$ _____

Solve the equation.

$$-\left(\frac{1}{x+1}+\frac{2}{x^2-1}\right)=-1$$

Solutions (separate by commas): $x=$ _____

Correct Answers:

- 8
- 2