

A.REI.A.2: Solving Rationals 4

1 Which equation is equivalent to $1 - \frac{6}{t^2} = \frac{1}{t}$?

- 1) $(t-3)(t+2) = 0$
- 2) $(t-2)(t+3) = 0$
- 3) $(2t+1)(3t-1) = 0$
- 4) $(2t-1)(3t+1) = 0$

2 Solve for y : $\frac{4}{5y-3} = \frac{2}{3y+4}$

3 Solve: $\frac{2}{x} + 1 = \frac{1}{4}$

4 Solve for r : $\frac{1}{r} = \frac{1}{2} + \frac{1}{3}$

5 Solve for x : $\frac{1}{15} + \frac{1}{10} = \frac{1}{x}$

6 Solve for x : $\frac{2}{3x} + 5 = \frac{4}{x}$

7 Solve for y : $\frac{5}{3y} - \frac{6}{4y} = \frac{1}{6}$

8 Solve for x : $\frac{5}{4x} - \frac{6}{3x} = \frac{1}{12}$

9 Solve for x : $\frac{2}{x} + \frac{3}{5x} = 1$

10 Solve for the positive value of x : $\frac{x}{3} - \frac{4}{x} = \frac{4}{3}$

11 Solve for x : $\frac{4x}{x+2} - \frac{12}{x} = 1$

12 Solve for y : $\frac{y}{y-1} = \frac{8}{y} + \frac{1}{y-1}$

13 For all values of x for which the expression is defined, solve for x : $\frac{3}{x+3} + \frac{2}{x-4} = \frac{4}{3}$

14 Solve for x : $\frac{12}{x^2-16} - \frac{24}{x-4} = 3$

15 Solve for all values of x : $\frac{2x}{x+3} + \frac{3}{x-3} = \frac{8}{x^2-9}$

16 Solve for x : $\frac{x}{x+5} + \frac{9}{x-5} = \frac{50}{x^2-25}$

17 Solve for x : $\frac{x}{x-5} - \frac{2}{x+5} = \frac{50}{x^2-25}$

18 Solve the equation $\frac{x+8}{5} + \frac{x+5}{x} = 1$ and express the roots in simplest $a + bi$ form.

19 Solve the equation $2(x-3) = -\frac{5}{x}$ and express its roots in terms of i .

20 Solve the equation $2x + \frac{3}{x} = -2$ and express the roots in $a + bi$ form.

21 Solve the equation $x = 2 - \frac{8}{x}$ and express the roots in simplest $a + bi$ form.

22 Express, in terms of i , the roots of $\frac{x}{8} + \frac{8}{9x} = 0$.

23 Express the roots of the equation $\frac{3}{x} + x = 2$ in simplest $a + bi$ form.

24 Solve for x and express the roots in terms of i :
 $\frac{x+3}{3} + \frac{x+3}{x} = 2$

25 Solve for x and express the roots in simplest $a + bi$ form: $2 + \frac{5}{x^2} = \frac{6}{x}$

26 Express the roots of the equation $2x + \frac{5}{x} = 2$ in simplest $a + bi$ form.

27 Solve for y and express the roots of the equation in simplest $a + bi$ form: $5y + \frac{5}{y} = 8$

28 Solve for x and express your answer in simplest $a + bi$ form: $16x = 16 - \frac{13}{x}$

29 Solve for x and express the roots in simplest $a + bi$ form: $x + \frac{5}{x} = 2$

30 Solve for x and express the roots in simplest $a + bi$ form: $9x + \frac{2}{x} = -6$

A.REI.A.2: Solving Rationals 4
Answer Section

1 ANS: 1 REF: 060227siii

2 ANS:
-11

REF: 019705siii

3 ANS:
 $-\frac{8}{3}$

REF: 068714siii

4 ANS:
 $\frac{6}{5}$

REF: 060213siii

5 ANS:
6

REF: 068015siii

6 ANS:
 $\frac{2}{3}$

REF: 010410siii

7 ANS:
1

REF: 018909siii

8 ANS:
-9

REF: 010204siii

9 ANS:
 $\frac{13}{5}$

REF: 080308siii

10 ANS:
6

REF: 089809siii

11 ANS:

$$-\frac{4}{3}, 6$$

REF: 080041siii

12 ANS:

$$8$$

REF: 089637siii

13 ANS:

$$-\frac{5}{4}, 6$$

REF: 010042siii

14 ANS:

$$-6, -2$$

REF: 060138siii

15 ANS:

$$1, \frac{1}{2}$$

REF: 019840siii

16 ANS:

$$1$$

REF: 069841siii

17 ANS:

$$-8$$

REF: 060342siii

18 ANS:

$$-4 \pm 3i$$

REF: 068537siii

19 ANS:

$$\frac{3 \pm i}{2}$$

REF: 068738siii

20 ANS:

$$-\frac{1}{2} \pm \frac{i\sqrt{5}}{2}$$

REF: 068837siii

21 ANS:

$$1 \pm i\sqrt{7}$$

REF: 068936siii

22 ANS:

$$\pm \frac{8i}{3}$$

REF: 089339siii

23 ANS:

$$1 \pm i\sqrt{2}$$

REF: 069441siii

24 ANS:

$$\pm 3i$$

REF: 019736siii

25 ANS:

$$\frac{3}{2} \pm \frac{1}{2}i$$

REF: 069740siii

26 ANS:

$$\frac{1}{2} \pm \frac{3}{2}i$$

REF: 019838siii

27 ANS:

$$\frac{4}{5} \pm \frac{3}{5}i$$

REF: 069841siii

28 ANS:

$$\frac{1}{2} \pm \frac{3}{4}i$$

REF: 080142siii

29 ANS:

$$1 \pm 2i$$

REF: 060237siii

30 ANS:

$$-\frac{1}{3} \pm \frac{i}{3}$$

REF: 080341siii