College Algebra, 5e **(Young)**
Chapter 1 Equations and Inequalities

1.1 Linear Equations

1) Solve the equation.
$-56x - 54 = 10 - 60x$
A) 16
B) 64
C) -116
D) 60
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

2) Solve the equation.
$25c + 2 = 7 + 22c$
A) 9/47
B) 38
C) 5/3
D) 56
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

3) Solve the equation.
$5(x - 3) - 5 = x - 3(x - 2)$
A) 7/26
B) 6/7
C) 26/7
D) 7/6
Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

4) Solve the equation.

$$\frac{p}{5} = \frac{5p}{6} + 5$$

A) -5/4
B) -1/9
C) -9
D) -150/19
Answer: D
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

5) Specify the values that must be excluded from the solution set.

$$\frac{19}{x} - 1 = \frac{12}{x - 9}$$

A) 0 and 9
B) 9
C) 0
D) -9
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

6) Specify the values that must be excluded from the solution set.

$$\frac{22}{z - 7} - \frac{16}{23} = \frac{10}{z + 20}$$

A) -20
B) -7 and 20
C) 7 and -20
D) 7, 23, and -20
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

7) Specify the values that must be excluded from the solution set.

$$\frac{n - 29}{n + 26} - \frac{23}{25} = \frac{n + 5}{19n - 8}$$

A) -26
B) 26 and -19/8
C) -26 and 8/19
D) -26, 25 and 8/19
Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

8) Specify the values that must be excluded from the solution set.

$$\frac{\frac{29}{x} + 1}{\frac{29}{x} - 1} = -9$$

A) 0 and 29
B) 0
C) 29
D) -9
Answer: A
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

9) Solve the equation.

$$\frac{5}{3t} = 5 - \frac{4}{15t}$$

A) 75/29
B) 21/75
C) 29/75
D) 4/5
Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

10) Solve the equation.

$$\frac{-10}{10p - 11} = \frac{1}{p - 1}$$

A) no solution
B) 19/20
C) 21/20
D) 1/20
Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

11) Solve the equation.

$$\frac{p^2 - 1}{5p + 25} = \frac{p}{5}$$

A) 1/5
B) 5
C) -5
D) -1/5
Answer: D
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

12) Solve the equation.

$$\frac{\frac{5}{x} + 1}{\frac{5}{x} - 1} = 6$$

A) 1
B) 10
C) 5
D) None of the above
Answer: D
Diff: 3 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

13) Solve $2n + 10 = 17 - 5n$.
Answer: 1
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

14) Solve $\frac{7p}{10} = \frac{-7p}{10} - 140$.
Answer: -100
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

15) Specify any values that must be excluded from the solution set and then solve the equation.
$$\frac{\frac{1}{x} + 17}{\frac{1}{x} - 17} = 2$$
Answer: Exclude {0, 1/17}, the solution set is {1/51} or $x = 1/51$
Diff: 3 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve rational equations that are reducible to linear equations.

16) Solve.
$38 - [8 + 12x - 15(x + 5)] = 3(6x + 11) - [8(4x - 1) + 2 - 19x]$
Answer: 41
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

17) When traveling in London, Florence decided to check her e-mail at an internet café. There was a flat charge of $3.00 plus a charge of 19 cents a minute. How many minutes was she logged on if her bill was $5.85?
Answer: 15 minutes
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

18) Solve $-8z = -80$ for z.
A) 10
B) 640
C) -88
D) -72
Answer: A
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

19) Solve $-12u = -3$ for u.
A) 4
B) 36
C) $\frac{1}{4}$
D) -9
Answer: C
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

20) Solve $-8w - 8 = 64$ for w.
A) 80
B) -9
C) 48
D) 72
Answer: B
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

21) Solve $\frac{1}{4}x = -\frac{1}{2}x + 9$ for x.
A) -12
B) $\frac{1}{12}$
C) 12
D) $-\frac{1}{12}$
Answer: C
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

22) The perimeter, P, of a rectangle is the distance around it, and can be found by solving the formula $P = 2l + 2w$, where l is the length and w is the width. What is the length of a rectangle whose perimeter is 30 inches and whose width is 3 inches?
A) 15 inches
B) 12 inches
C) 24 inches
D) 10 inches
Answer: B
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01

Learning Objective: Solve linear equations in one variable.

23) Solve $7q = 56$ for q.
Answer: $q = 8$
Diff: 1 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

24) The perimeter, P, of a rectangle is the distance around it, and can be found by solving the formula $P = 2l + 2w,$ where l is the length and w is the width. What is the length of a rectangle whose perimeter is 102 inches and whose width is 23 inches?
Answer: 28 inches
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.

25) The area, A, of a rectangle is the amount of two-dimensional space it takes up and can be found by solving the formula $A = lw,$ where l is the length and w is the width. What is the length of a rectangle whose area is 80 square inches and whose width is 8 inches?
A) 72 inches
B) 64 inches
C) 8 inches
D) 10 inches
Answer: D
Diff: 2 Var: 1
Chapter/Section: Ch 01, Sec 01
Learning Objective: Solve linear equations in one variable.