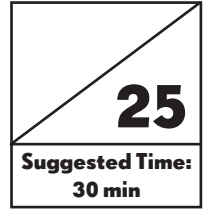


## CHAPTER TEST A



# Algebraic Linear Equations



## Concepts and Skills (10 × 1 point = 10 points)

Solve the following equations. Show your work.

1.  $3(x - 1) - 8 = 4(1 + x) + 5$

2.  $\frac{4x - 2}{8} + \frac{3 + x}{4} = \frac{1}{2}$

3.  $\frac{2(x + 1)}{3} - \frac{x - 1}{6} = 1$

Express the following decimals as fractions. Show your work.

4.  $0.\overline{4}$

5.  $0.41\overline{6}$

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Identify whether each equation has one solution, no solution, or an infinite number of solutions. Show your work.**

6.  $x + \frac{1}{4} = -\frac{1}{8}(8x - 2)$

7.  $5\left(x + \frac{1}{5}\right) = 5\left(x + \frac{3}{5}\right)$

8.  $\frac{1}{3}(x - 3) = \frac{1}{3}x - 1$

**Express y in terms of x. Find the value of y when x = 3.**

9.  $0.25y = \frac{2}{x - 6}$

10.  $\frac{1}{3}y = 6\left(x - \frac{1}{6}\right)$

**Problem Solving** (Questions 11 to 13:  $3 \times 2$  points = 6 points,  
Questions 14 to 16:  $3 \times 3$  points = 9 points)

**Solve. Show your work.**

11. Alex is  $x$  years old. June is 7 years older than Alex. In 5 years, their total combined age will be 31 years.

a) Write a linear equation for their total combined age in 5 years.

b) Find June's present age.