Name: Date:

Solve the Equations

Round your answers to the nearest hundredth if needed.

1) $\dfrac{8}{9} = \dfrac{s + 3}{s}$

6) $\dfrac{1}{4} = \dfrac{28}{4f - 20}$

2) $\dfrac{8}{b - 8} = \dfrac{1}{b}$

7) $\dfrac{7}{8} = \dfrac{x - 5}{x - 7}$

3) $\dfrac{6}{8} = \dfrac{1}{d}$

8) $\dfrac{3k - 7}{9} = \dfrac{1}{3}$

4) $\dfrac{2r - 9}{13} = \dfrac{4}{9}$

9) $\dfrac{3}{7} = \dfrac{n - 14}{n}$

5) $\dfrac{8}{9} = \dfrac{v - 18}{v - 21}$

10) $\dfrac{1}{a} = \dfrac{3}{26}$

Proportion Equations

Solve the Equations

Round your answers to the nearest hundredth if needed.

1) $\dfrac{8}{9} = \dfrac{s+3}{s}$

    s = -27.00

6) $\dfrac{1}{4} = \dfrac{28}{4f-20}$

    f = 33.00

2) $\dfrac{8}{b-8} = \dfrac{1}{b}$

    b = -1.14

7) $\dfrac{7}{8} = \dfrac{x-5}{x-7}$

    x = 9.00

3) $\dfrac{6}{8} = \dfrac{1}{d}$

    d = 1.33

8) $\dfrac{3k-7}{9} = \dfrac{1}{3}$

    k = 3.33

4) $\dfrac{2r-9}{13} = \dfrac{4}{9}$

    r = 7.39

9) $\dfrac{3}{7} = \dfrac{n-14}{n}$

    n = 24.50

5) $\dfrac{8}{9} = \dfrac{v-18}{v-21}$

    v = -6.00

10) $\dfrac{1}{a} = \dfrac{3}{26}$

    a = 8.67

KEY CONCEPTS:

Learn to set up and solve ratio problems.

1. Proportion equations are of the form...

$$\frac{a}{b} = \frac{x}{y}$$

2. Cross multiply to solve in one step.

$$ay = bx$$

3. Proportions equations frequently result from word problems.

e.g. There two parts oil for every 5 parts oil & vinegar. If I used 30 ml of oil & vinegar in my salad dressing, then how many ml of oil was included?

$$\frac{2}{5} = \frac{x}{30}$$

$$2(30) = 5x$$

$$x = 60/5 = 12 \text{ ml oil}$$