Unit 4 Day 4
4-3 Multiplication + Fractions

1) $\dfrac{x \cdot 2}{2} = 8 \cdot 2$

$\boxed{x = 16}$

2) $3 \cdot \dfrac{x}{3} = -4 \cdot 3$

$\boxed{x = -12}$

3) $3 \cdot \dfrac{2}{3}x = 5 \cdot 3$

$\dfrac{2x}{2} = \dfrac{15}{2}$

$\boxed{x = \dfrac{15}{2}}$

$\dfrac{3}{2}\dfrac{2}{3}x = \dfrac{5 \cdot 3}{2}$

$\boxed{x = \dfrac{15}{2}}$

4) $\dfrac{4}{3}x + 103 = 99$

$\qquad -103 \quad -103$

$\dfrac{3}{4}\dfrac{4}{3}x = -4 \cdot \dfrac{3}{4}$

$\boxed{x = -3}$

$3 \cdot \dfrac{4}{3}x + 103 \cdot 3 = 99 \cdot 3$

$4x + 309 = 297$

$\qquad -309 \quad -309$

$\dfrac{4x}{4} = -\dfrac{12}{4}$

$\boxed{x = -3}$

5) $\dfrac{3}{5}x - 2 = 3$

$\qquad +2 \quad +2$

$\dfrac{5}{3}\cdot\dfrac{3}{5}x = 5 \cdot \dfrac{5}{3}$

$\boxed{x = \dfrac{25}{3}}$

6) $\overset{3}{\cancel{12}} \cdot \dfrac{3}{4}x - 2 \overset{12}{=} \dfrac{1}{3}x \cdot \overset{4}{\cancel{12}}$ To "clear" fractions, multiply both sides by LCD.

$$9x - 24 = 4x$$
$$-9x \qquad\qquad -9x$$
$$-24 = -5x$$
$$\overline{-5} \qquad \overline{-5}$$
$$\boxed{x = \dfrac{24}{5}}$$

7) $\overset{}{\cancel{3}} \cdot \dfrac{2}{\cancel{3}}(x - 4) = 2 \cdot 3$

$\underbrace{\qquad\qquad\qquad}_{\text{1 term}}$

$$\dfrac{\cancel{2}(x-4)}{\cancel{2}} = \dfrac{6}{2} \qquad\qquad 2(x - 4) = 6$$
$$x - 4 = 3 \qquad\qquad\qquad 2x - 8 = 6$$
$$+4 \quad +4 \qquad\qquad\qquad +8 \quad +8$$
$$\boxed{x = 7} \qquad\qquad\qquad \dfrac{2x}{2} = \dfrac{14}{2} \qquad \boxed{x = 7}$$

8) $\overset{5}{\cancel{20}} \cdot \dfrac{3}{4}x - 4 \overset{20 \;\; 2}{=} \cancel{20} \cdot \dfrac{7}{10}x$

$$15x - 80 = 14x$$
$$-14x + 80 \qquad -14x + 80$$
$$\boxed{x = 80}$$

Practice 4-4