Lesson 3.2.3

3-85. $\frac{3x-1}{2x+3}$; x cannot be –4 or $-\frac{3}{2}$.

3-86. $\frac{3}{7}$, $\frac{5}{4}$

3-87. See below:

a. $\frac{4x+3}{x+3}$, $x \neq 5$ or –3

b. $\frac{x+2}{2x+1}$, $x \neq \frac{1}{9}$ or $-\frac{1}{2}$

c. $\frac{7+4m}{3m-2}$, $m \neq \frac{2}{3}$ or $-\frac{3}{2}$

d. $\frac{(y-2)^2(y+5)}{3y(y+2)}$, $y \neq 0$, –2, or 2

e. $2x$, $x \neq 0$ and $y \neq 0$

f. $\frac{3x+1}{2x-3}$, $x \neq \frac{3}{2}$, 4 or $\frac{2}{5}$

3-88. See below:

a. $\frac{4}{11}$

b. $\frac{3}{25}$

c. $\frac{5(x-2)}{(x+4)^2}$

d. $\frac{2(2x-3)}{(x-5)(x+1)}$

e. $\frac{5x-1}{2(x-3)} = \frac{5x-1}{2x-6}$

f. $\frac{1}{2x+5}$

Review & Preview

3-90. See below:

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

b. $\frac{x-4}{x+4}$

3-91. See below:

a. $x \neq -4$ or 2, $\frac{x+4}{x-2}$

b. $x \neq -2$ or 3, $\frac{2(x+2)}{(x-3)^2}$

3-92. Answers vary, but should include the idea that she needs to create fractions with equal denominators before she can combine them.

3-93. See below:

a. $(\frac{1}{3}, -2)$

b. $(4, -9)$

3-94. $n \cdot 3^{15} = 72$ million, $n = 5$; There were 5 bacteria at first.

3-95. The function is even. A reflection across the y-axis results in the same graph.

3-96. See below:

a. $m = -6$

b. $x = 5.5$

c. $k = 4$

d. $x = 90$