Exercise 31

Arithmetic Operations Perform the indicated operations.

(a) $\frac{2}{3}\left(6-\frac{3}{2}\right)$ **(b)** $\left(3+\frac{1}{4}\right)\left(1-\frac{4}{5}\right)$

Solution

Part (a)

$$\frac{2}{3}\left(6-\frac{3}{2}\right)$$

In order to subtract the fractions in parentheses, make it so they have the same denominator.

$$\frac{2}{3}\left(6\times\frac{2}{2}-\frac{3}{2}\right)$$

$$\frac{2}{3}\left(\frac{12}{2}-\frac{3}{2}\right)$$

$$\frac{2}{3}\left(\frac{12-3}{2}\right)$$

$$\frac{2}{3}\left(\frac{9}{2}\right)$$

$$3$$

Part (b)

$$\left(3+\frac{1}{4}\right)\left(1-\frac{4}{5}\right)$$

In order to add or subtract the fractions in parentheses, make it so they have the same denominator.

$$\left(3\times\frac{4}{4}+\frac{1}{4}\right)\left(1\times\frac{5}{5}-\frac{4}{5}\right)$$

$$\left(\frac{12}{4}+\frac{1}{4}\right)\left(\frac{5}{5}-\frac{4}{5}\right)$$

$$\left(\frac{12+1}{4}\right)\left(\frac{5-4}{5}\right)$$

$$\left(\frac{13}{4}\right)\left(\frac{1}{5}\right)$$

$$\frac{13}{20}$$