

Readiness Quiz

Show *all* your work algebraically for each and simplify. No credit is given without supporting work. There are *two* sides to this quiz.

1. [4] Simplify the following:

$$-3^2 + 2(4 - 1)^2$$

$$-9 + 2(3)^2$$

$$-9 + 2 \cdot 9$$

$$\begin{array}{r} -9 + 18 \\ \hline \textcircled{+1} \quad \textcircled{+1} \\ 9 \end{array}$$

$$\begin{aligned} \frac{6x^2 - 6}{9x + 9} &= \frac{6(x^2 - 1)}{9(x+1)} \\ &= \frac{6(x+1)(x-1)}{9(x+1)} \\ &= \frac{2(x-1)}{3} \end{aligned}$$

coef $\textcircled{+1, 5}$
factor num $\textcircled{+1}$
cancel sign $\textcircled{+1, 5}$

2. [3] Use algebra to solve for m in

$$m \left(\frac{1}{m} \right) = \left(\frac{2}{m} + 5 \right) m$$

$$1 = 2 + 5m$$

$$-1 = 5m$$

$$-\frac{1}{5} = m$$

subtract $+5$
mult both side by $m+1$
mult by m $+5$
legal alg $+2$
got it $+5$
solve for m $+5$

3. [3] Perform the indicated operation and simplify $\frac{2}{x+1} - \frac{1}{x}$.

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

comm den $+1.5$
dist neg $+5$
simplify $+5$
alg $+5$