

Quiz 1

Key

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:

$$5 + 4(2^3 - 3^2)$$

$$5 + 4(8 - 9)$$

$$5 + 4(-1)$$

$$5 - 4$$

$$1$$

$$\frac{x^4(x^2)^3}{x^3}$$

$$\frac{x^4 \cdot x^{2 \cdot 3}}{x^3} = \frac{x^4 \cdot x^6}{x^3} = \frac{x^{10}}{x^3}$$

$$= x^{10-3}$$

$$= x^7$$

2. [3] Solve for m in

$$3(m+4) + 2m = 4 - 3m$$

$$\textcircled{+1} \quad 3m + 12 + 2m = 4 - 3m$$

$$5m + 12 = 4 - 3m$$

$$\textcircled{+1} \quad +3m \quad +3m$$

$$8m + 12 = 4$$
$$-12 \quad -12$$

$$\textcircled{\times 1} \quad \frac{8m}{8} = \frac{-8}{8} \Rightarrow m = -1$$

3. [3] Express fraction in lowest terms $\frac{x^2 - x - 2}{x^2 + 2x + 1} = \frac{(x-2)\cancel{(x+1)}}{(x+1)\cancel{(x+1)}}$

trying to factor.
so cancel
reduced.

$$\textcircled{\frac{x-2}{x+1}}$$