Quiz 6

Name: _____

Solutions given without showing work will earn a zero. This quiz is open-book. Circle your answers.

Problem 1. **[4 points]** Solve $\frac{z}{x} = \frac{x-y}{w}$ for y.

LCD = xw

$\frac{xw}{1} \cdot \frac{z}{x} = \frac{(x-y)}{w} \cdot \frac{xw}{1}$

$wz = (x-y)x$

$wz = x^2 - xy$

$wz - x^2 = -xy$

$\frac{wz - x^2}{-x} = y$

Problem 2. **[3+3=6 points]** A company the produces kayaks has a cost function $C(x) = 100,000 + 50x$ which models the cost in dollars of producing x kayaks.

(a) What is the average cost function $\overline{C}(x)$?

$\overline{C}(x) = \frac{100,000 + 50x}{x}$

(b) How many kayaks must the company produce for the average cost per kayak to be \$70?

$70 = \frac{100,000 + 50x}{x}$

$70x = 100,000 + 50x$

$20x = 100,000$

$x = 5,000$ kayaks