D: Proportional Reasoning Continued

Examples:

1. 3 kg of Halibut costs $28.70.

a. How much will 7 kg of halibut cost?

$$\frac{3\text{kg}}{\$28.70} = \frac{7\text{kg}}{x}$$

Remove the units if they confuse you!

$$\frac{3}{\$28.70} = \frac{7}{x}$$

Cross Multiply

$$\frac{3}{\$28.70} \times \frac{7}{x}$$

$3x = 200.90$

Divide both sides by 3 in order to solve for x.

$$\frac{3x}{3} = \frac{200.90}{3}$$

3 Cancels

$x = 66.97$	7kg of Halibut costs $66.97

2. Determine the missing value in the equivalent fraction.

$\frac{4}{\quad} = \frac{24}{30} = \frac{\quad}{15}$

Solve for the missing values separately.

$\frac{4}{x} = \frac{24}{30}$

Don't worry about the third fraction right now!
Cross Multiply!

$24x = 120$

$\frac{24x}{24} = \frac{120}{24}$

Divide both sides by 24 to solve for *x*.
24 Cancels out.

$x = 5$

Now solve for the other unknown. I am using y in order to show the difference between the two unknowns.

$\frac{24}{30} = \frac{y}{15}$

Cross Multiply!

$30y = 360$

$\frac{30x}{30} = \frac{360}{30}$

Divide both sides by 30 to solve for *y*.
30 Cancels out.

$y = 12$

3. A machine cuts a rectangle of licorice into four pieces in 8s. If it continues cutting at a constant speed how long will it take him to cut a similar rectangle into 200 pieces?

$\frac{4 \text{ pieces}}{8 \text{ s}} = \frac{200 \text{ pieces}}{x}$

$\frac{4}{8} = \frac{200}{x}$ Cross Multiply

$4x = 1600$ Divide each side by 4 to solve for x.

$\frac{4x}{4} = \frac{1600}{4}$ The 4's cancel out.

$x = 400$ s

To the nearest minute how long does this take?

$400 \div 60 = 6.6$ 7 Minutes

[redacted]

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