

# Do Now

Please place your homework in front of you and solve the Do Now problem.  
Thanks!

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Calculate a unit rate in terms of seconds per egg to find how long, on average, it took Joey to eat each egg.

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Since  $\frac{4 \text{ seconds}}{1 \text{ egg}} = \frac{480 \text{ seconds}}{120 \text{ eggs}}$  these rates are **proportional**.

We can easily see the quotient is 4 in both cases. We could also verify by checking the **cross-products**.

$$4 \cdot 120 = 480 \cdot 1$$

When two rates (or ratios) are equal, their cross products are also equal.

We can prove this using the proportion below.

$$\frac{4}{5} = \frac{16}{20}$$

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Are the ratios below proportional?

$$\frac{3}{5} \stackrel{?}{=} \frac{21}{40}$$

Are the ratios below proportional?

$$\frac{36}{68} \stackrel{?}{=} \frac{9}{17}$$

Are the ratios below proportional?

$$\frac{11}{15} \stackrel{?}{=} \frac{77}{110}$$

Identify the value of the variable in each proportion below.

$$\frac{y}{7} = \frac{16}{28}$$



Identify the value of the variable in each proportion below.

$$\frac{20}{b} = \frac{70}{28}$$

Zach earned \$112 for 8 hours of work. At this rate, how much will he earn for 40 hours of work?

Dana traveled 1,250 miles in the first 3 days of her trip. At this rate, how long will it take her to travel 1,875 miles?