



Creating and Solving Proportions Bookmark & Checklist

**Karl can score 350 points in 35 seconds.
How many points can he score in
20 seconds?**

- 1** What are the two units being compared?
Create a ratio as a guide.
Make a rate table if it helps.

$\frac{\text{points}}{\text{seconds}}$

points		
seconds		

- 2** Create a ratio with the given information, and don't forget the units.

$\frac{350 \text{ points}}{35 \text{ seconds}}$

- 3** Create a ratio with the unknown.

$\frac{x \text{ points}}{20 \text{ seconds}}$

- 4** Set the ratios equal to each other, as a proportion.

$\frac{350 \text{ points}}{35 \text{ seconds}} = \frac{x \text{ points}}{20 \text{ seconds}}$

- 5** Draw your arrows going to the ratio with the unknown.

$\frac{350 \text{ points}}{35 \text{ seconds}} = \frac{x \text{ points}}{20 \text{ seconds}}$

- 6** Find the scale factor going to the ratio with the unknown.
(Scale factor means "multiply" but you might have to work backwards and divide to find it.)

$\frac{350 \text{ points}}{35 \text{ seconds}} = \frac{x \text{ points}}{20 \text{ seconds}}$
x $\boxed{\text{SF}}$

$$35 \times \boxed{\text{SF}} = 20$$

$$\text{So } 20 \div 35 = \boxed{0.571428 \text{ SF}}$$

- 7** Apply the scale factor to find the unknown.

$\frac{350 \text{ points}}{35 \text{ seconds}} = \frac{x \text{ points}}{20 \text{ seconds}}$
x $\boxed{0.571428 \text{ SF}}$

- 8** Write your answer with correct units!

$$x = 200 \text{ points}$$



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