



**THIRD SPACE  
LEARNING**

# Unit rate Worksheet

Ratio and Proportion

**Grades 6 to 8**

## Skill Questions

Name: .....

Date: .....

- 1 A car travels 120 miles in 3 hours. What is the unit rate in miles per hour?

Answer

- 2 The ratio of cups of cherries to peaches is 3:5. What is the unit rate of cups of cherries in cups of peaches?

Answer

- 3 Complete the ratio table.

time (minutes)	4	7	9
distance (feet)	56	98	

Answer

- 4 Complete the ratio table.

pounds	3	4	6
cost (\$)	13.05		26.10

Answer

- 5 Gemma reads at a constant rate. She reads 50 pages in 4 hours. How many pages does she read in 7 hours?

Answer

## Unit rate Worksheet | Grades 6 to 8

- 6 A car travels 15 miles in  $\frac{1}{4}$  hours. What is the unit rate in miles per hour?

Answer

- 7 Complete the ratio table.

time (hours)	4	7	9
distance (inches)	$\frac{4}{5}$	$\frac{7}{5}$	

Answer

- 8 Complete the ratio table.

pounds	0.25	0.5	0.8
cost (\$)	2.25	4.50	

Answer

- 9 Sarah swims  $5\frac{1}{2}$  laps in  $\frac{1}{3}$  of an hour. If she continues at the same rate, how many laps does Sarah swim in 1 hour?

Answer

- 10 It takes  $\frac{3}{20}$  of an hour for Steven to paint one picture. If Steven paints at a constant rate, how many pictures can Steven paint in 1 hour?

Answer

## Applied Questions

- 11 A grocery store sells 4 pounds of red potatoes for \$3.72 and 5 pounds of white potatoes for \$4.80. Which has the better unit price?

Answer

- 12 In a factory, a machine makes 25 chairs every 4 hours.

- Ahmet says “The unit rate is 6.25 chairs per hour.”
- Otto says “The unit rate is 0.16 hours per chair.”

Who is correct? Explain.

- 13** Word Problem: A blue car travels 120 miles in 3 hours. A red car travels 150 miles in 4 hours. Which car has a faster rate of speed?

- Justice's strategy:

blue:  $120 \times 4 = 480$  miles in 12 hours

red:  $150 \times 3 = 450$  miles in 12 hours

- Harper's strategy:

blue:  $120 \div 3 = 40$  miles in 1 hour

$40 \times 4 = 160$  miles in 4 hours

Compare Justice and Harper's strategies. Then use one of the strategies to answer the question.

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- 14** A red candle burns  $\frac{3}{8}$  of an inch every 5 minutes. A blue candle burns  $\frac{11}{16}$  of an inch every 8 minutes. Which candle burns faster per minute?

Answer

## Unit rate Worksheet | Grades 6 to 8

**15** Hakeem completes  $\frac{3}{4}$  of a drawing every  $\frac{1}{3}$  of an hour.

a) What is the unit rate per hour?

Answer

b) What is the unit rate per drawing?

Answer

c) Explain why the unit rates are different.

Answer

## Answers

Question number	Question	Answers	Standard								
1	A car travels 120 miles in 3 hours. What is the unit rate in miles per hour?	40 miles	6.RP.A.2								
2	The ratio of cups of cherries to peaches is 3:5. What is the unit rate of cups of cherries in cups of peaches?	$\frac{3}{5}$	6.RP.A.2								
3	Complete the ratio table. <table border="1" data-bbox="304 974 777 1097"> <tr> <td>time (minutes)</td><td>4</td><td>7</td><td>9</td></tr> <tr> <td>distance (feet)</td><td>56</td><td>98</td><td></td></tr> </table>	time (minutes)	4	7	9	distance (feet)	56	98		126	6.RP.A.3b
time (minutes)	4	7	9								
distance (feet)	56	98									
4	Complete the ratio table. <table border="1" data-bbox="304 1198 777 1321"> <tr> <td>pounds</td><td>3</td><td>4</td><td>6</td></tr> <tr> <td>cost (\$)</td><td>13.05</td><td></td><td>26.10</td></tr> </table>	pounds	3	4	6	cost (\$)	13.05		26.10	\$17.40	6.RP.A.3b
pounds	3	4	6								
cost (\$)	13.05		26.10								
5	Gemma reads at a constant rate. She reads 50 pages in 4 hours. How many pages does she read in 7 hours?	87.5 pages	6.RP.A.3b								
6	A car travels 15 miles in $\frac{1}{4}$ hours. What is the unit rate in miles per hour?	60 miles	7.RP.A.1								
7	Complete the ratio table. <table border="1" data-bbox="304 1832 777 1966"> <tr> <td>time (hours)</td><td>4</td><td>7</td><td>9</td></tr> <tr> <td>distance (inches)</td><td><math>\frac{4}{5}</math></td><td><math>\frac{7}{5}</math></td><td></td></tr> </table>	time (hours)	4	7	9	distance (inches)	$\frac{4}{5}$	$\frac{7}{5}$		$\frac{9}{5}$	7.RP.A.1
time (hours)	4	7	9								
distance (inches)	$\frac{4}{5}$	$\frac{7}{5}$									

# Unit rate Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard								
8	<p>Complete the ratio table.</p> <table border="1"> <tr> <td>pounds</td><td>0.25</td><td>0.5</td><td>0.8</td></tr> <tr> <td>cost (\$)</td><td>2.25</td><td>4.50</td><td></td></tr> </table>	pounds	0.25	0.5	0.8	cost (\$)	2.25	4.50		\$7.20	7.RP.A.1
pounds	0.25	0.5	0.8								
cost (\$)	2.25	4.50									
9	Sarah swims $5\frac{1}{2}$ laps in $\frac{1}{3}$ of an hour. If she continues at the same rate, how many laps does Sarah swim in 1 hour?	$16\frac{1}{2}$ laps	7.RP.A.1								
10	It takes $\frac{3}{20}$ of an hour for Steven to paint one picture. If Steven paints at a constant rate, how many pictures can Steven paint in 1 hour?	$6\frac{2}{3}$ pictures	7.RP.A.1								
11	A grocery store sells 4 pounds of red potatoes for \$3.72 and 5 pounds of white potatoes for \$4.80. Which has the better unit price?	<div>red potatoes (\$0.93 per pound)</div> <div>white potatoes (\$0.95 per pound)</div>	6.RP.A.3b								
12	<p>In a factory, a machine makes 25 chairs every 4 hours.</p> <ul style="list-style-type: none"> <li>Ahmet says “The unit rate is 6.25 chairs per hour.”</li> <li>Otto says “The unit rate is 0.16 hours per chair.”</li> </ul> <p>Who is correct? Explain.</p>	<p>Answers will vary.</p> <p>Example answer:</p> <p>They are both correct. Ahmet calculated the unit rate per hour (so he solved <math>25 \div 4</math> to find the chairs made in 1 hour). Otto calculated the unit rate per chair (so he solved <math>4 \div 25</math> to find the hours it took to make 1 chair).</p>	6.RP.A.3b								



## Unit rate Worksheet | Grades 6 to 8 | Answers




Question number	Question	Answers	Standard
13	<p>Word Problem: A blue car travels 120 miles in 3 hours. A red car travels 150 miles in 4 hours. Which car has a faster rate of speed?</p> <ul style="list-style-type: none"> <li>Justice's strategy: blue: <math>120 \times 4 = 480</math> miles in 12 hours red: <math>150 \times 3 = 450</math> miles in 12 hours</li> <li>Harper's strategy: blue: <math>120 \div 3 = 40</math> miles in 1 hour <math>40 \times 4 = 160</math> miles in 4 hours</li> </ul> <p>Compare Justice and Harper's strategies. Then use one of the strategies to answer the question.</p>	<p>Answers will vary: Example answer: Each person calculated the cars at the same number of hours to compare - Justice did 12 hours and Harper did 4. Justice didn't have to divide, since 12 is a multiple of 3 and 4. Harper was the only one that found a unit rate. Since the blue car goes farther at 12 hours, it means the blue car is faster.</p>	6.RP.A.3b
14	<p>A red candle burns <math>\frac{3}{8}</math> of an inch every 5 minutes. A blue candle burns <math>\frac{11}{16}</math> of an inch every 8 minutes. Which candle burns faster per minute?</p>	blue candle	7.RP.A.1
15	<p>Hakeem completes <math>\frac{3}{4}</math> of a drawing every <math>\frac{1}{3}</math> of an hour.</p> <p>a) What is the unit rate per hour? b) What is the unit rate per drawing? c) Explain why the unit rates are different.</p>	<p>a) <math>2\frac{1}{4}</math> drawings per hour b) <math>\frac{4}{9}</math> hours per drawing c) Answers will vary. Example answer: The first unit rate is the number of drawings that can be done in 1 hour, so the rate is calculated when hours are 1. The second unit rate is the number of hours it takes to do 1 drawing, so the rate is calculated when the drawings are 1.</p>	7.RP.A.1

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