

# Grade 7

## **Topic: Ratios and Proportions**

#### Instructions

Solve the following problems on ratios and proportions. Show all your work clearly.

### **Practice Problems**

### 1. Write the following ratios in simplest form.

(i)	12:16	(iv)	9:27
(ii)	25:40	(v)	35:50
(iii)	18:24	(vi)	14:49

2. Determine if the following pairs of ratios form a proportion.

(i)	$\frac{2}{3}, \frac{4}{6}$	(iii)	$\frac{7}{10}, \frac{14}{20}$
(ii)	$\frac{5}{8}, \frac{15}{24}$	(iv)	$\frac{3}{5}, \frac{6}{11}$

- 3. Solve for x in the following proportions.

(i)	$\frac{3}{x} = \frac{6}{10}$	(iii)	$\frac{8}{x} =$	$\frac{4}{9}$
(ii)	$\frac{5}{12} = \frac{x}{36}$	(iv)	$\frac{x}{7} =$	$\frac{15}{21}$

### 4. Word Problems.

- (i) A recipe uses 3 cups of flour for every 2 cups of sugar. How much sugar is needed for 9 cups of flour?
- (ii) If 4 pencils cost \$6, how much do 10 pencils cost?

- (iii) A map scale shows 1 cm = 5 km. What is the actual distance if two cities are 8 cm apart on the map?
- (iv) A car travels 180 km in 3 hours. How far will it travel in 5 hours at the same speed?

### Multiple-Choice Questions

1. Which of the following ratios is equivalent to  $\frac{2}{5}$ ?

A.  $\frac{4}{10}$ B.  $\frac{6}{10}$ C.  $\frac{3}{7}$ D.  $\frac{5}{8}$ 2. Solve for  $x: \frac{7}{x} = \frac{21}{9}$ A. 3 B. 9 C. 7 D. 27

3. Which pair forms a proportion?

 $\begin{array}{lll} A. & \frac{4}{9}, \frac{8}{18} \\ B. & \frac{5}{12}, \frac{10}{20} \\ C. & \frac{6}{8}, \frac{12}{20} \\ D. & \frac{7}{14}, \frac{15}{28} \end{array}$ 

4. A ratio can be written as:

- A. Fraction
- B. Colon form (a:b)
- C. Word form ("a to b")
- D. All of the above

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