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FREE PRACTICE PACKET · GRADE 6

Ratios, Rates & Percents

Equivalent ratios, unit rates, percent of a number and word problems

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Tips for parents

Ratios show up everywhere: recipes, prices, speed and sales. Ask your child to find the “price per item” next time you shop together. For percents, 10% is a great starting point: just move the decimal one place left.

Made by Tim Rusli, Math & Physics Tutor in Union, NJ · Aligned to NJ Student Learning Standards 6.RP.A.1, 6.RP.A.2 and 6.RP.A.3

Name _____ Date _____

Part A · Equivalent ratios

Equivalent ratios are made by multiplying or dividing both parts by the same number.

Example 2 : 3 = ? : 12 → 3 × **4** = 12, so 2 × **4** = 8 → 2 : 3 = 8 : 12

Fill in the missing number.

1. 2 : 3 = ☐ : 12
2. 5 : 4 = 15 : ☐
3. 3 : 7 = ☐ : 21
4. 6 : 9 = 2 : ☐

Write each ratio in simplest form.

5. 10 : 15 =
6. 8 : 20 =
7. 24 : 16 =
8. 9 : 27 =

Name _____ Date _____

Part B · Unit rates and percents

A unit rate tells you how much for ONE. To find a percent of a number, change the percent to a fraction or decimal.

Example 25% of 80 → 25% = $\frac{1}{4}$ → 80 ÷ 4 = 20

Find each unit rate.

1. $12 for 4 notebooks = _____ per notebook

2. 150 miles in 3 hours = _____ miles per hour

3. $4.50 for 6 apples = _____ per apple

4. 96 words in 2 minutes = _____ words per minute

Find the percent of each number.

5. 25% of 80 =

6. 10% of 350 =

7. 50% of 46 =

8. 20% of 45 =

9. 75% of 24 =

10. 5% of 60 =

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Name _____ Date _____

Part C · Word problems

Write the ratio or rate first. A quick table can help you see the pattern.

1. A smoothie recipe uses 3 cups of strawberries for every 2 bananas. How many cups of strawberries are needed for 8 bananas?

   Answer: _____

2. A 6-pack of juice costs $4.20 and an 8-pack costs $5.20. Which is the better buy? Show the unit prices.

   Answer: _____

3. A $60 jacket is on sale for 30% off. What is the sale price?

   Answer: _____

4. The ratio of boys to girls in a class is 3 : 4. There are 28 students. How many are girls?

   Answer: _____

5. Ava says 3 : 5 is equivalent to 6 : 8 because she added 3 to both numbers. Is she right? Explain.

Challenge 40% of a number is 18. What is the number?

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Answer key

Answers are shown in simplest form.

Part A

A1	**8**
A2	**12**
A3	**9**
A4	**3**
A5	**2 : 3**
A6	**2 : 5**
A7	**3 : 2**
A8	**1 : 3**

Part B

B1	**$3.00** per notebook
B2	**50** miles per hour
B3	**$0.75** per apple
B4	**48** words per minute
B5	**20**
B6	**35**
B7	**23**
B8	**9**
B9	**18**
B10	**3**

Part C

C1	**12** cups
C2	6-pack: $0.70 each; 8-pack: $0.65 each. The **8-pack** is the better buy.
C3	30% of 60 = 18, so the sale price is **$42**
C4	28 ÷ 7 = 4, so **16** girls (and 12 boys)
C5	No. Equivalent ratios come from **multiplying** (or dividing) both parts by the same number. 3 : 5 = 6 : 10.
★	40% = 0.4, and 18 ÷ 0.4 = **45**

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NEED A LITTLE MORE HELP?

One-on-one tutoring with Tim Rusli

I'm a Math and Physics tutor in Union, NJ with a Bachelor's in Applied Mathematics from Rutgers. I break hard problems into small, clear steps so students build real confidence, from elementary math to SAT Math, Calculus and Physics.

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