

**PHYSMATH**

3: Ratios, reciprocals and rounding

### LEARNING OUTCOMES

**Level 4**  
 > Define reciprocal

**Level 5**  
 > Convert numbers to different decimal places

**Level 6**  
 > Construct a question which requires the use of ratios

### RECIPROCAL

- Reciprocal means one divided by
- The reciprocal of 7 is  $1 \div 7$
- $1 \div 7 = 0.142857142$

### FIND THE RECIPROCAL OF...

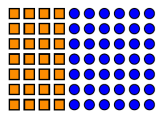
a) 8  
**4** b) 15  
 c) 3  
 d) 0.6  
**5** e) 6  
 f) 12.3  
 g) 17.95  
**6** h) 8.642

1) .1325 to thousandths	11) 5.567 to hundredths
2) .0091 to thousandths	12) 48.001 to hundredths
3) .0196 to thousandths	13) 7.987 to tenths
4) 5.1234 to thousandths	14) .666 to tenths
5) 6.6666 to thousandths	15) 1.32 to tenths
6) 40.61884 to thousandths	16) 99.99 to tenths
7) 1.99999 to thousandths	17) .5 to whole (ones) number
8) .1325 to hundredths	18) 11.99 to whole (ones) number
9) .0091 to hundredths	19) 499 to the nearest hundred
10) .3333 to hundredths	20) 999 to the nearest thousand

Tenth: 1 decimal place (dp)

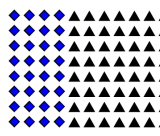
Hundredth: 2 dp

Thousandth: 3 dp




What is the ratio of yellow squares to blue circles? = \_\_\_ : \_\_\_ = \_\_\_ : \_\_\_ Simplified

What is the ratio of blue circles to (yellow squares + blue circles)? = \_\_\_ : \_\_\_ = \_\_\_ : \_\_\_




What is the ratio of blue diamonds to black triangles? = \_\_\_ : \_\_\_ = \_\_\_ : \_\_\_ Simplified

What is the ratio of black triangles to (blue diamonds + black triangles)? = \_\_\_ : \_\_\_ = \_\_\_ : \_\_\_



What is the ratio of  
 ✚ to ♥ ? = \_\_\_ : \_\_\_ = Simplified  
 What is the ratio of  
 ♥ to ( ✚ + ♥ ) ? = \_\_\_ : \_\_\_ = Simplified



What is the ratio of  
 ♥ to ○ ? = \_\_\_ : \_\_\_ = Simplified  
 What is the ratio of  
 ○ to ( ♥ + ○ ) ? = \_\_\_ : \_\_\_ = Simplified

**4** ●

1) Which two recipes have equivalent ratios of cups of flour needed to the number of cookies? \_\_\_\_\_

Recipes	Cups of Flour Needed	Number of Cookies
Oatmeal Raisin	3	48
Macadamia Nut	4	64
Chocolate Chip	2	25
Peanut Butter	3	27

**5** ●

2) Which two types of cars have equivalent ratios of miles traveled to hours of time during the trip? \_\_\_\_\_

Cars	Miles Traveled	Hours of Time
Toyota	24	2
Honda	36	3
Chevrolet	32	2
Lexus	14	1

**5** ●

3) Which two teachers received equivalent ratios of apples from their total number of students? \_\_\_\_\_

Teachers	Received Apples	Number of Students
Jones	3	42
Theodore	2	28
Hearn	4	48
Thompson	3	46

**5** ●

- 1) You can buy 5 cans for green beans at the Village Market for \$3.20. You can buy 10 of the same cans of beans at Sam's Club for \$5.90. Which place is the better buy? \_\_\_\_\_
- 2) A ferris wheel can accommodate 70 people in 15 minutes. How many people could ride the ferris wheel in 5 hours? What was that rate per hour? \_\_\_\_\_
- 3) You can buy 3 apples at the Quick Market for \$1.23. You can buy 5 of the same apples at Stop and Save for \$1.15. Which place is the better buy? \_\_\_\_\_
- 4) The bakers at Healthy Bakery can make 340 bagels in 5 hours. How many bagels can they bake in 16 hours? What was that rate per hour? \_\_\_\_\_

**6** ●

- 5) A jet travels 500 miles in 5 hours. At this rate, how far could the jet fly in 8 hours? What is the rate of speed of the jet? \_\_\_\_\_
- 6) Gas mileage is the number of miles you can drive on a gallon of gasoline. A test of a new car results in 350 miles on 10 gallons of gas. How far could you drive on 55 gallons of gas? What is the car's gas mileage? \_\_\_\_\_
- 7) An ice cream factory makes 160 quarts of ice cream in 5 hours. How many quarts could be made in 36 hours? What was that rate per day? \_\_\_\_\_

**6** ●