

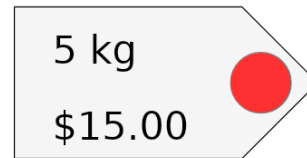
## Ratios, Rates, and Percent

1 What is the wage in \$/hr?

**total hours: 2 hrs total earnings: 9 \$**

|                |                 |
|----------------|-----------------|
| A<br>4.5 \$/hr | B<br>2.5 \$/hr  |
| C<br>3.5 \$/hr | D<br>4.25 \$/hr |

2 What is the price per kg of this item?



|                |
|----------------|
| A<br>\$3.00/kg |
| B<br>\$2.00/kg |
| C<br>\$1.00/kg |
| D<br>\$4.00/kg |

3 Find what percent the first number is of the second

**What percent is 12 out of 40**

|           |          |          |
|-----------|----------|----------|
| A<br>333% | B<br>10% | C<br>35% |
| D<br>30%  | E<br>70% | F<br>33% |

4 Find what percent the first number is of the second

**What percent is 6 out of 40**

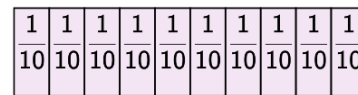
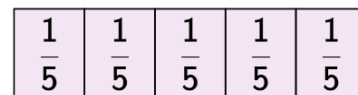
|          |          |          |
|----------|----------|----------|
| A<br>16% | B<br>15% | C<br>20% |
| D<br>30% | E<br>5%  | F<br>10% |

5 Set this fraction comparison problem up correctly

$$\frac{6}{5} \bigcirc 1\frac{1}{2}$$

|                                 |                                             |
|---------------------------------|---------------------------------------------|
| A<br>$1\frac{2}{10} \bigcirc 2$ | B<br>$1\frac{2}{10} \bigcirc 1\frac{5}{10}$ |
| C<br>$1 \bigcirc 1\frac{3}{6}$  |                                             |

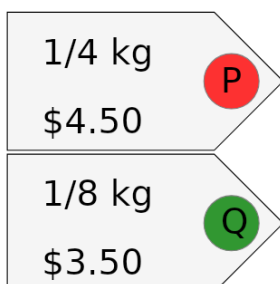
6 Use the fraction strips to pick the right equation for comparing  $\frac{1}{5}$  to  $\frac{3}{10}$



A  $\frac{1}{5} = \frac{3}{10}$     B  $\frac{1}{5} > \frac{3}{10}$

C  $\frac{1}{5} < \frac{3}{10}$

7 Which option has the lowest price per kg?

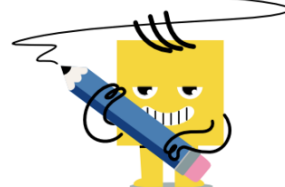


|        |
|--------|
| A<br>Q |
| B<br>P |

8 Convert this percent to a decimal

**10%**

|            |             |
|------------|-------------|
| A<br>1.00  | B<br>0.01   |
| C<br>10.00 | D<br>100.00 |
| E<br>0.10  | F<br>0.00   |



## Ratios, Rates, and Percent

- 9** Which fraction is the same as this percent?

**70%**

|   |                |   |                |
|---|----------------|---|----------------|
| A | $\frac{4}{10}$ | B | $\frac{7}{10}$ |
| C | $\frac{2}{10}$ | D | $\frac{3}{10}$ |

- 10** Convert this rate from yards per second to feet per second. There are  $\frac{1}{3}$  yrd in every ft  
An ant crawls 5 yards each second. What is its speed in feet per second?

$$5 \frac{\text{yrd}}{\text{s}} \text{ is } ? \frac{\text{ft}}{\text{s}}$$

|   |                                     |   |                                     |   |                                     |
|---|-------------------------------------|---|-------------------------------------|---|-------------------------------------|
| A | $\frac{11 \text{ ft}}{3 \text{ s}}$ | B | $\frac{3 \text{ ft}}{12 \text{ s}}$ | C | $\frac{5 \text{ ft}}{10 \text{ s}}$ |
| D | $\frac{3 \text{ ft}}{5 \text{ s}}$  | E | $\frac{1 \text{ ft}}{15 \text{ s}}$ | F | $15 \frac{\text{ft}}{\text{s}}$     |

- 11** Convert this rate from feet per second to yards per minute. There are  $\frac{1}{3}$  yrd in every ft  
A bird flies at 3 feet per second. What is its speed in yards per minute?

$$3 \frac{\text{ft}}{\text{s}} \text{ is } ? \frac{\text{yrd}}{\text{min}}$$

|   |                                         |   |                                        |   |                                         |
|---|-----------------------------------------|---|----------------------------------------|---|-----------------------------------------|
| A | $\frac{180 \text{ yrd}}{3 \text{ min}}$ | B | $\frac{9 \text{ yrd}}{64 \text{ min}}$ | C | $\frac{3 \text{ yrd}}{180 \text{ min}}$ |
| D | $\frac{8 \text{ yrd}}{180 \text{ min}}$ | E | $\frac{9 \text{ yrd}}{60 \text{ min}}$ | F | $\frac{60 \text{ yrd}}{9 \text{ min}}$  |

- 12** Convert this decimal to a percent

**0.40**

|   |        |   |       |
|---|--------|---|-------|
| A | 4,000% | B | 0.4%  |
| C | 40%    | D | 0%    |
| E | 4%     | F | 0.04% |

- 13** Convert this decimal to a percent

**0.7**

|   |      |   |        |
|---|------|---|--------|
| A | 70%  | B | 0%     |
| C | 7%   | D | 1%     |
| E | 700% | F | 7,000% |

- 14** Convert this fraction to a percent

$$\frac{5}{10}$$

|   |       |   |      |   |      |
|---|-------|---|------|---|------|
| A | 66.7% | B | 60%  | C | 50%  |
| D | 200%  | E | 220% | F | 150% |

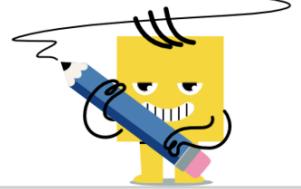
- 15** Find the missing value in this percent problem

|   | Part | Whole | Actual | Percent |
|---|------|-------|--------|---------|
|   | ?    | 90    | 60     | 100     |
| A | 54   |       |        |         |
| B | 59   |       |        |         |
| C | 74   |       |        |         |
| D | 39   |       |        |         |
| E | 64   |       |        |         |
| F | 19   |       |        |         |

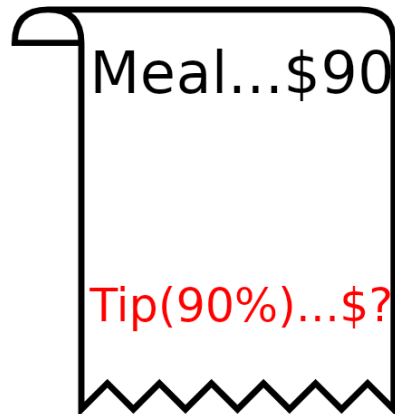
- 16** Find what the given percent of the number is

**8% of 10**

|   |      |   |      |   |      |
|---|------|---|------|---|------|
| A | 0.8  | B | 1.52 | C | 8    |
| D | 1.36 | E | 0.02 | F | 1.12 |

**Ratios, Rates, and Percent****17** What would a 90% tip be?

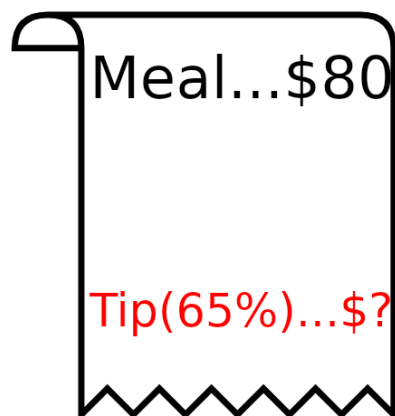
90% of 90



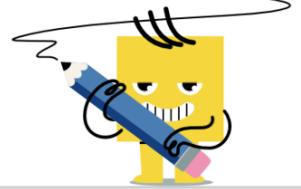
|   |    |   |    |   |    |
|---|----|---|----|---|----|
| A | 2  | B | 81 | C | 0  |
| D | 82 | E | 84 | F | 86 |

**18** What would a 65% tip be?

65% of 80

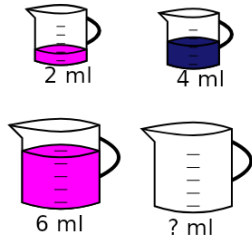


|   |      |   |     |   |    |
|---|------|---|-----|---|----|
| A | 520  | B | 5.2 | C | 52 |
| D | 52.7 | E | 1.5 | F | 54 |



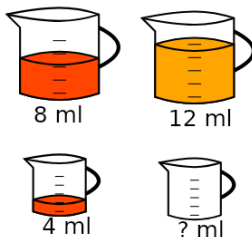
## Ratios, Rates, and Percent

- 19** This paint color needs 4 ml of blue for every 2 ml of magenta. How much blue is needed if you have 6 ml of magenta



|   |       |
|---|-------|
| A | 8 ml  |
| B | 4 ml  |
| C | 7 ml  |
| D | 12 ml |

- 20** This sauce needs 12 ml of mustard for every 8 ml of ketchup. How much mustard is needed if you have 4 ml of ketchup

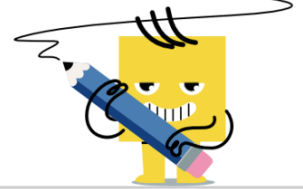


|   |      |
|---|------|
| A | 3 ml |
| B | 2 ml |
| C | 6 ml |
| D | 4 ml |

- 21** What would a 30% tip be?  
30% of 10



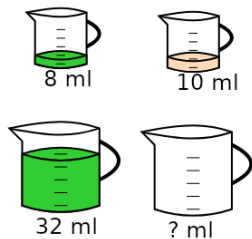
|   |    |   |   |   |     |
|---|----|---|---|---|-----|
| A | 4  | B | 5 | C | 300 |
| D | 30 | E | 6 | F | 3   |

**Ratios, Rates, and Percent****22** Find what the full number is for the given percent**0.2 is 1% of a number**

|          |        |          |
|----------|--------|----------|
| A<br>20  | B<br>1 | C<br>120 |
| D<br>220 | E<br>4 | F<br>2   |

**23** Find what the full number is for the given percent**27 is 30% of a number**

|         |         |
|---------|---------|
| A<br>93 | B<br>87 |
| C<br>90 | D<br>97 |

**24** This smoothie needs 10 ml of peach for every 8 ml of lime. How much peach is needed if you have 32 ml of lime

|   |       |
|---|-------|
| A | 45 ml |
| B | 44 ml |
| C | 40 ml |
| D | 43 ml |

**25** What is the (simplest) ratio of boys to girls?boys : 5  
girls : 3

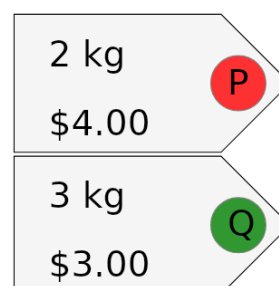
|          |          |
|----------|----------|
| A<br>5:3 | B<br>3:2 |
| C<br>1:9 | D<br>7:7 |

**26** What is the wage in \$/hr?**total earnings: 3 \$ total hours: 4.75 hrs**

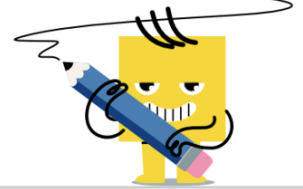
|                 |                 |
|-----------------|-----------------|
| A<br>0.63 \$/hr | B<br>1.37 \$/hr |
| C<br>0.88 \$/hr | D<br>1.13 \$/hr |

**27** Find what percent the first number is of the second**What percent is 17 out of 85**

|          |          |          |
|----------|----------|----------|
| A<br>10% | B<br>40% | C<br>22% |
| D<br>20% | E<br>30% | F<br>60% |

**28** Which option has the lowest price per kg?

|        |
|--------|
| A<br>Q |
| B<br>P |



## Ratios, Rates, and Percent

**29** A plane flies 14dm in 7ms. How fast is this in dm/ms?

A 98 dm/ms

B 9 dm/ms

C 4 dm/ms

D 2 dm/ms

**30** Divide these numbers  
 $\frac{13}{5}$

A 3.8

B 2.7

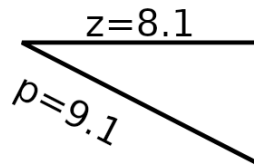
C 2.2

D 2.6

E 0

F 4.6

**31** Solve for the ratio of lengths of line p over line z



$$\frac{p}{z} = ?$$

A  $\frac{p}{z} = 0.123$

B  $\frac{p}{z} = 1.123$

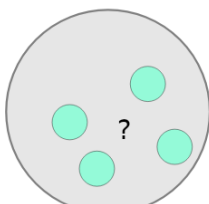
C  $\frac{p}{z} = 0.756$

D  $\frac{p}{z} = 0.656$

E  $\frac{p}{z} = 0.523$

F  $\frac{p}{z} = 1.910$

**32** What would the TOTAL number of shapes be if they are in the given ratio?



(squares:all shapes)=(3:

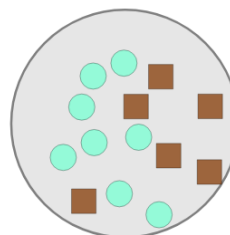
A 5

B 8

C 10

D 12

**33** What is the (simplest) ratio of circles to squares?

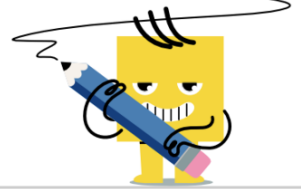


A 1:5

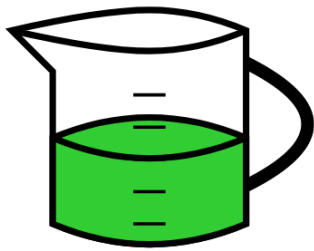
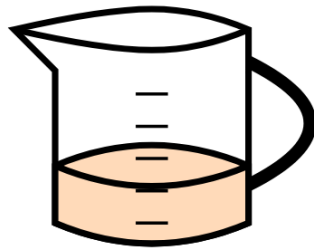
B 4:3

C 2:4

D 10:6

**Ratios, Rates, and Percent**

**34** This smoothie needs  $\frac{1}{3}$  cup of peach for every  $\frac{1}{2}$  cup of lime. How many cups of peach is needed if you have  $\frac{3}{4}$  cup of lime

 $\frac{1}{2}$  cup $\frac{1}{3}$  cup $\frac{3}{4}$  cup

? cup

A

3cup

B

 $\frac{3}{5}$  cup

C

 $\frac{1}{2}$  cup

D

 $\frac{3}{4}$  cup

**35** What is the total number of kids?

boys : ?  
girls : 12  
(boys : girls) = (5 : 4)

|   |    |   |    |
|---|----|---|----|
| A | 43 | B | 45 |
| C | 27 | D | 35 |

**36** What is the total number of kids?

boys : 20  
girls : ?  
(girls : ALL kids) = (2 : 7)

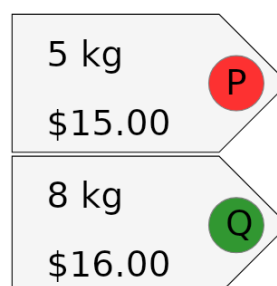
|   |    |   |    |
|---|----|---|----|
| A | 22 | B | 28 |
| C | 40 | D | 38 |

**37** Calculate the final amount when it changes by a percentage

**\$60 minus 30% tax**

|   |         |   |         |
|---|---------|---|---------|
| A | \$39.90 | B | \$29.40 |
| C | \$54.60 | D | \$42.00 |
| E | \$58.80 | F | \$60.90 |

**38** Which option has the lowest price per kg?



|   |   |
|---|---|
| A | Q |
| B | P |