



Ratios, Rates, and Proportional Reasoning

1 What is the wage in \$/hr?

total hours: 6 hrs total earnings: 2.75 \$

- | | |
|-----------------|-----------------|
| A
0.46 \$/hr | B
2.21 \$/hr |
| C
0.54 \$/hr | D
0.21 \$/hr |

2 What is the price per kg of this item?

1/4 kg
\$2.00

- | |
|----------------|
| A
\$8.75/kg |
| B
\$8.00/kg |
| C
\$7.50/kg |
| D
\$6.25/kg |

3 What is the price per kg of this item?

6 kg
\$6.00

- | |
|----------------|
| A
\$0.25/kg |
| B
\$0.50/kg |
| C
\$2.25/kg |
| D
\$1.00/kg |

4 Which option has the lowest price per kg?

1/2 kg \$7.00	P
3/4 kg \$8.00	Q

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

5 Which option has the lowest price per kg?

6 kg \$1.50	P
7 kg \$0.50	Q

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

6 Which option has the lowest price per kg?

1/4 kg \$4.50	P
1/8 kg \$3.50	Q

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

7 Which option has the lowest price per kg?

2.25 kg \$3.00	P
3.25 kg \$2.00	Q

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

8 Bug A crawls 3dam in 6min. Bug B crawls 0.4hm in 0.08hr. Which is faster?

A Bug B	B Bug A
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**Ratios, Rates, and Proportional Reasoning**

- 9** What line equation would create this set of X, Y values?

X	0	1	2	3	4
Y	0	2	4	6	8

A $y = \frac{1}{2}x$

B $y = \frac{2}{2}x$

C $y = -2x$

D $y = 2x$

- 10** How many tennis balls are there?
tennis balls : ?
soccer balls : 12
(tennis : soccer) = (4 : 3)

A 22

B 7

C 15

D 16

- 11** What rule turns each input into its output?

Input	Output
1	7
2	14
4	?
6	42
7	49

A

multiply by 7

B

multiply by 10

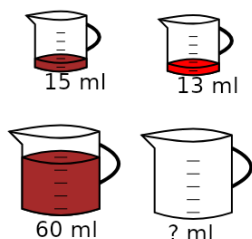
C

multiply by 6

D

multiply by 9

- 12** This sundae needs 13 ml of strawberry for every 15 ml of chocolate. How much strawberry is needed if you have 60 ml of chocolate



A 52 ml

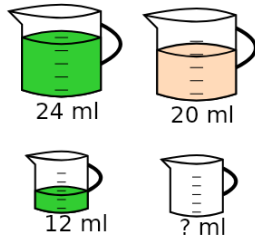
B 58 ml

C 53 ml

D 54 ml

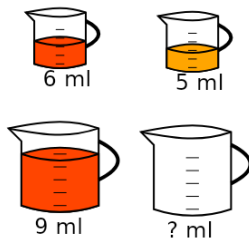
**Ratios, Rates, and Proportional Reasoning**

- 13** This smoothie needs 20 ml of peach for every 24 ml of lime. How much peach is needed if you have 12 ml of lime



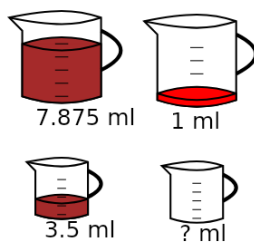
A	10 ml
B	7 ml
C	6 ml
D	4 ml

- 14** This sauce needs 5 ml of mustard for every 6 ml of ketchup. How much mustard is needed if you have 9 ml of ketchup



A	7.25 ml
B	7.5 ml
C	5.5 ml
D	5.75 ml

- 15** This sundae needs 1 ml of strawberry for every 7.875 ml of chocolate. How much strawberry is needed if you have 3.5 ml of chocolate



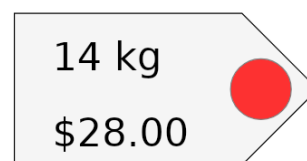
A	1.31 ml
B	0.44 ml
C	0.69 ml
D	2.19 ml

- 16** What is the wage in \$/hr?

total hours: 1 hrs total earnings: 10 \$

A 11.25 \$/hr	B 9.75 \$/hr
C 8.25 \$/hr	D 10 \$/hr

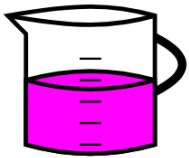
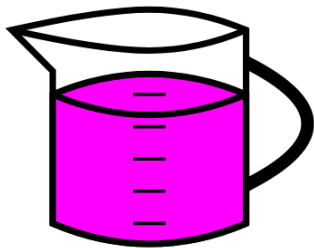
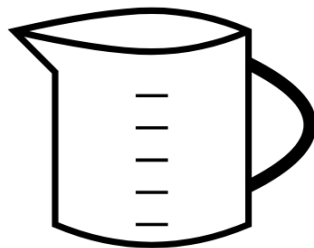
- 17** What is the price per kg of this item?



A \$3.00/kg
B \$1.00/kg
C \$2.00/kg

**Ratios, Rates, and Proportional Reasoning**

- 18** This paint color needs $1\frac{1}{2}$ cup of blue for every $1\frac{3}{8}$ cup of magenta. How many cups of blue is needed if you have $1\frac{5}{6}$ cup of magenta

 $1\frac{3}{8}$ cup $1\frac{1}{2}$ cup $1\frac{5}{6}$ cup

? cup

A

2cup

B

 $1\frac{4}{15}$ cup

C

 $\frac{19}{44}$ cup

D

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

- 19** Which option has the lowest price per kg?

2 kg

\$8.00

P

1 kg

\$10.00

Q

A

P

B

Q

- 20** Bug A crawls 40dam in 80min. Bug B crawls 4hm in 0.0417d. Which is faster?

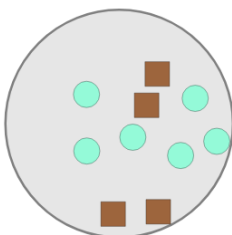
A

Bug B

B

Bug A

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



A

9:4

B

4:9

C

3:2

D

2:9

- 22** What can this ratio be simplified to?

21:18

A

7:6

B

11:3

C

1:2

D

6:2



Ratios, Rates, and Proportional Reasoning

23 What chart of X, Y values matches this line equation?

$$y = 1x$$

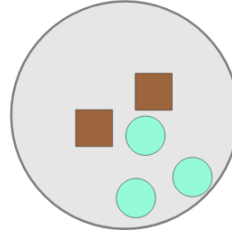
A

X	Y
0	0
1	-1
2	-2
3	-3
4	-4

B

X	Y
0	0
1	1
2	2
3	3
4	4

24 What is the (simplest) ratio of circles to ALL shapes?



A 5:9

B 3:5

C 2:6

D 6:3

25 What is the (simplest) ratio of cats to dogs?

cats : 10

dogs : 4

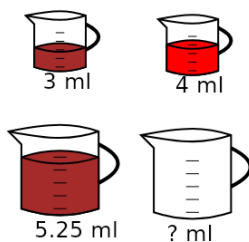
A 5:2

B 10:3

C 3:7

D 3:1

26 This sundae needs 4 ml of strawberry for every 3 ml of chocolate. How much strawberry is needed if you have 5.25 ml of chocolate



A 7 ml

B 5.25 ml

C 8.5 ml

D 8.25 ml

27 What is the (simplest) ratio of cats to dogs?

cats : 2

dogs : 3

A 11:12

B 8:10

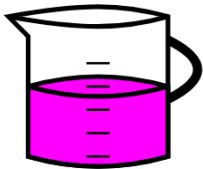
C 2:3

D 4:5



Ratios, Rates, and Proportional Reasoning

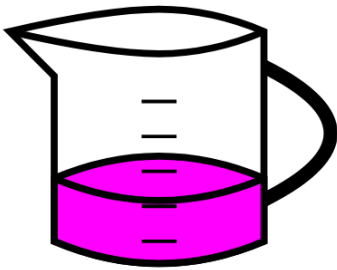
28 This paint color needs 1 cup of blue for every $\frac{3}{4}$ cup of magenta. How many cups of blue is needed if you have $\frac{9}{20}$ cup of magenta



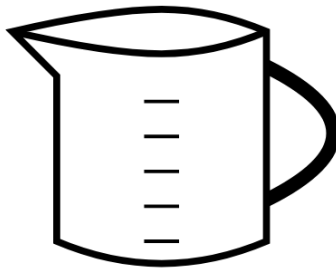
$\frac{3}{4}$ cup



1 cup



$\frac{9}{20}$ cup



? cup

A

$$\frac{13}{20} \text{ cup}$$

B

$$\frac{27}{80} \text{ cup}$$

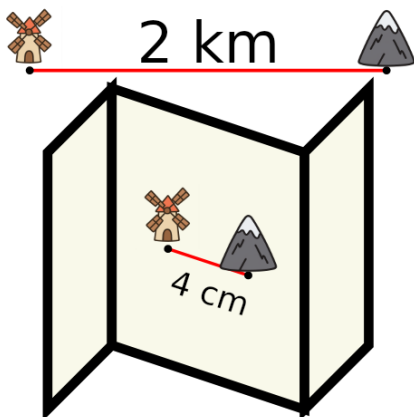
C

$$\frac{13}{60} \text{ cup}$$

D

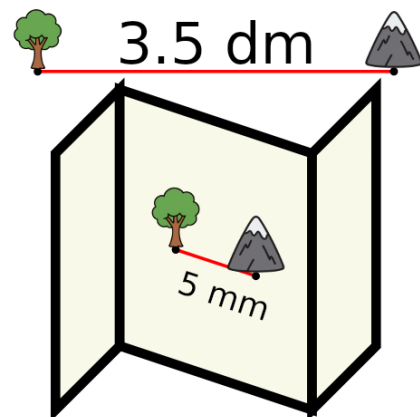
$$\frac{3}{5} \text{ cup}$$

29 4 cm on the map represents 2 km. What is the scale of the map?



- | | | |
|------------------|-------------------|----------------|
| A
1:5,000,000 | B
1:50,000,000 | C
1:5,000 |
| D
1:50,000 | E
1:50 | F
1:500,000 |

30 5 mm on the map represents 3.5 dm. What is the scale of the map?



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