22.1   Multiplying Decimals and Percents - Worksheet 1

1

Calculate $(0.03) \cdot (1.5)$ using fraction multiplication.

2

Calculate $(0.42) \cdot (0.2)$ using fraction multiplication.

3

Complete the chart.

Decimal	0.1	0.2	0.25	0.3	0.4	0.5
Percent						
Fraction						

4

Complete the chart. Reduce the fractions where possible.

Decimal						
Percent	60%	70%	75%	80%	90%	100%
Fraction						

22.2   Multiplying Decimals and Percents - Worksheet 2

1

Calculate $(0.05) \cdot 30$ using fraction multiplication.

2

Calculate $(0.008) \cdot 2000$ using fraction multiplication.

3

Calculate $20\% \cdot 50$.

This is the calculation for "20% of 50."

4

Complete the chart. Reduce the fractions where possible.

Decimal	0.413	0.45				
Percent			0.7%	125%		
Fraction					$\frac{29}{100}$	$\frac{7}{5}$

22.3   Multiplying Decimals and Percents - Worksheet 3

1

What is 25% of 80?

The "classic" percentage problems are all worded like this, which leads to the "is over of" understanding of percents. Try to re-train yourself to think about this as parts of a whole.

2

30% of what number is 45?

3

What percent of 20 is 40?

Be careful!

4

The recipe states that the amount of water that is needed is equal to 70% of the weight of the flour used. If 2500 grams of flour are used in the recipe, what is the weight of water that is required for proper hydration?

- The part:

- The whole:

- The percent:

Answer:

This is known as baker's percentages, and professional bakers really do use this.

Write in complete sentences.

22.4 Multiplying Decimals and Percents - Worksheet 4

1 Calculate $10\% \cdot 5$.

2 The marketing department has $\$100{,}000$ to spend on this project, which is 20% of annual budget. How much money did they have budgeted for the entire year?

- The part:

- The whole:

- The percent:

Answer:

3 The car has a 12 gallon tank. When we went to the gas station, we filled it with 9 gallons of gas and now the tank is full. What percent of the tank's capacity was the gas level at before we went to the gas station?

Think carefully about the problem! The answer is not 75%.

- The part:

- The whole:

- The percent:

Answer:

22.5   Multiplying Decimals and Percents - Worksheet 5

1

A shirt was marked on sale at 20% off the regular price. The cost of the shirt at the register was $12. What is the regular price of the shirt?

This is another tricky problem.

- The part:

- The whole:

- The percent:

Answer:

2

In the previous problem, a common error for students to make is that they compute 20% of $12 (which is 2.40) and then add that amount to $12 to get 14.40. Give two different explanations for why this approach is not correct.

3

A 20% tip can be calculated using the following method: (1) Start with the total bill; (2) Move the decimal point one space to the left; (3) Double that new number. Use algebra to explain why this results in a 20% tip.