Percents and Estimation 5-5

To estimate using percents you can use 10% and multiply.

Use Fractions to Estimate

Estimate 48% of 60.

48% is close to 50%

50% = $\frac{1}{2}$

So $\frac{1}{2} \cdot 60$

30

Use Fractions to Estimate

Estimate 23% of 41.

23% is close to 25%

25% = $\frac{1}{4}$

So $\frac{1}{4} \cdot 40$

10

Use Fractions to Estimate

Estimate 82% of 195.

82% is close to 80%

80% = $\frac{4}{5}$

So $\frac{4}{5} \cdot 200$

160

Use Fractions to Estimate

Estimate 62% of 503.

62% is close to 60%

60% = $\frac{3}{5}$

So $\frac{3}{5} \cdot 500$

300

Use 10% and Multiply

Estimate 71% of 300

71% is close to 70%

So find 70% of 300

$70\% = 7 \cdot 10\%$

And 10% of 300 =

30

S0 70% of 300 is

$7 \cdot 30$

210

Use 10% and Multiply

Estimate 19% of 40

19% is close to 20%

So find 20% of 40

$20\% = 2 \cdot 10\%$

And 10% of 40 =

4

S0 20% of 40 is

$2 \cdot 4$

8

Use 10% and Multiply

Estimate 28% of 217

28% is close to 30%

So find 30% of 200

$30\% = 3 \cdot 10\%$

And 10% of 200 =

20

S0 30% of 200 is

$3 \cdot 20$

60

Sales Tax

- Round the cost of a given item to the nearest dollar.
- Multiply that estimate by the decimal version of the sales tax.
- Add the original price to the tax.

Example – A scarf costs $14.99. If the sales tax is 6%, how much does the scarf cost in all?

$14.99 ⟶ $15

6% ⟶ 0.06

15 x 0.06 = 0.90

The tax is $0.90.

The scarf is about $15.00, and the tax is about $0.90, so the total cost is about $15.90.

Estimating a Tip

- Estimate the cost of the meal to the nearest dollar.
- Multiply that cost by the decimal version of the tip (a tip is usually 15%).
- Add the tip to the bill for the total.

Example – A meal costs $26.22. What is the total bill, including a 15% tip?

$26.22 ⟶ $26

15% ⟶ 0.15

$26 x 0.15 = $3.9

$3.9 is $3.90. This is the tip.

$26.00 + $3.90 = $29.90

The total cost of the meal is close to $30.

Estimating a Sale Price

- Subtract the percent off from 100 to see what percent you are paying.
- Multiply the original price by the percent you are paying (in decimal form)
- For example, if an item was on sale for 25% off, then you are actually paying 75% of the original value.

Example - A video game costs $49.95. If it goes on sale for 30% off, then what is the sale price?

The original price is about $50.

100% - 30% means that we are paying 70% of the original cost.

70% is 0.7 in decimal form.

$50 x 0.7 = $35. The sale price is about $35.

Estimate to find the answer

52% of those surveyed stated that their favorite holiday to grill is the Fourth of July. If there were 80 people survey. About how many people stated that Fourth of July was their favorite holiday to grill?

About 40 people

Estimate to find the answer

19% of those surveyed stated that their favorite holiday to grill is the Memorial Day. If there were 80 people survey. About how many people stated that Memorial Day was their favorite holiday to grill?

About 16 people

Estimate to find the answer

7% of those surveyed stated that their favorite holiday to grill is the Father's Day. If there were 80 people survey. About how many people stated that Father's Day was their favorite holiday to grill?

About 8 people