

Warm up

13. When you eat at a restaurant, it is normal to leave a tip that is between 10% and 15% of the bill, depending on the quality of service.

Mixed greens salad x2	\$11.00
Vegetable pizza	\$6.00
Risotto	\$7.00
Total	\$24.00
Thank you!	

- a) Suppose your food bill totals \$24.00. What range of tip would be acceptable, assuming good service?
- b) The GST and PST are usually shown on the bill. Describe how you can use this information to estimate the tip.

$$\begin{aligned} \text{a) } 10\% & \\ &= 0.10 \times 24 \\ &= \$2.40 \\ 15\% & \\ &= 0.15 \times 24 \\ &= \$3.60 \end{aligned}$$

Applying Percentages to Commission

commission

- a payment earned for sales made
- usually expressed as a percent of sales

Look at the items in the illustration above. The company pays a 25% commission on sales.



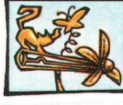
1. a) Estimate how much you would earn if you sold one of each item or set.
- b) Explain how you found your estimate.

Dolphin \approx \$12
 Horse \approx \$18
 Cat \approx \$40
 Total \approx \$70

Commission $\approx 70 \times 0.25$

2. Which items would you try hardest to sell? Explain why.

Sell the cat \Rightarrow more commission!



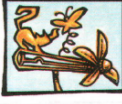
PRODUCT	DESCRIPTION	PRICE
	DOLPHIN WINDSOCK	\$11.98
	4 HORSE LAWN ORNAMENTS	\$17.98
	METAL CAT & BUTTERFLY WINDMILL	\$39.95

3. a) Which items, and how many of them, would you need to sell in order to earn \$50?
- b) Explain how you figured this out.
- c) Is there another way to earn \$50 by selling some of the items? Explain.

$$4 = 48$$

$$4 = 72$$

$$2 = 80$$

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Need to make a total of \$200 of sales. Many ways to do this.

4. **Reflect** Describe one advantage and one disadvantage of being paid by commission.

Advantage \rightarrow potential to earn a lot.
 Disadvantage \rightarrow potential to earn nothing!

Example 1: Calculate Commission Earnings

Devon has a summer job selling TV Listings subscriptions door-to-door. He is paid a commission of 40% of sales. Each new 1-year subscription sells for \$25, including taxes. One week he sells 18 subscriptions. What is his commission for the week?

$$\begin{aligned} \text{Total Sales} &= \text{cost} \times \# \text{ of subscriptions} \\ &= 25 \times 18 \\ &= \$450 \end{aligned}$$

$$\begin{aligned} \text{Commission} &= \text{Sales total} \times \text{rate} \\ &= 450 \times 40\% \\ &= 450 \times 0.40 \\ &= \$180 \end{aligned}$$

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Example 2: Apply Rates to Commission

Refer to Example 1. Devon hopes to earn \$1000 by the end of the summer. What total value must he sell?

$$\begin{aligned} \text{Commission} &= \text{Sales total} \times \text{rate} \\ \frac{1000}{0.4} &= \frac{y \times 0.40}{0.40} \\ \$2500 &= y \end{aligned}$$

Key Ideas

- Many jobs in sales pay by commission.
- Commission is usually calculated as a percent of sales.
For example, if commission is 20% of sales, for each \$1.00 of sales, the salesperson earns \$0.20.



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$$\text{Commission} = \text{sales} \times \text{rate}$$