

PERCENT OF A NUMBER GST

A service has a cost of \$7.90 excluding GST at 10%. After GST is included, what is the total cost? Find the total cost by writing and solving an equation:

Formula: $Total\ cost\ including\ GST = cost\ excluding\ GST + 10\% \text{ of } cost\ excluding\ GST$

Step 1) Apply the formula $x = \$7.90 + 10\% \text{ of } \7.90

Step 2) Simplify $7.90 + 0.10 \times 7.90$

Step 3) Solve $7.90 + 0.79 = 8.69$

After GST is included, the total cost is \$8.69.

MARK-UPS

A store purchased silver coat racks for \$60 and sold them for \$87. What is the mark-up percentage? The percent of change formula can be used to find percent of mark-up.

Formula: $percent\ of\ mark\ up = \frac{selling\ price - purchase\ price}{purchase\ price}$

Step 1) Apply the formula $\frac{\$87 - \$60}{\$60}$

Step 2) Simplify $\frac{27}{60}$

Step 3) Solve $= 0.45$

Write the number as a percent $\times 100 = 45\%$

DISCOUNTS

Kathy bought a pair of shoes for \$23 that was originally priced at \$46. What is the discount percentage? The percent of change formula can be used to find percent of discount.

Formula: $Percent\ of\ discount = \frac{original\ price - discount\ price}{original\ price}$

Step 1) Apply the formula $\frac{\$46 - \$23}{\$46}$

Step 2) Simplify $\frac{23}{46} = \frac{1}{2}$

Step 3) Solve $0.5 = 50\%$

A store at a local shopping centre called JB-HI-LO has a new 3-D LED TV priced at \$5,000 and has a one day only 50% off half price sale. Tiffany the saleswoman sold the TV and received a 9% commission on the sale price. How much commission did Tiffany make?

Formula: $Discount\ price = original\ price - discount$
 $= original\ price - discount\% \times original\ price$
 $= commission\% \times sales$

Step 1) Convert percentage discount to a decimal (move decimal two places to the left): $50\% = 0.5$

Step 2) Apply the first part of the formula: $\$2,500 = \$5,000 - 0.5$
 $= \$5,000 - \$2,500$
 $= \$2,500$

Step 3) Convert commission to a decimal (move decimal two places to the left): $9\% = 0.09$

Step 4) Apply the final part of the formula and solve: $= 0.09\% \times \$2,500$
 $= \$225$

Answer: the commission was \$225

PERCENTAGES

Per cent means 'per hundred': $50\% = 50\ per\ 100 = 50/100 = \frac{1}{2} = 0.5$

Exercise 1

The price of packet of lollies is \$2. Calculate the new price if it has a:

- a) 50% increase
- b) 100% increase
- c) 200% increase
- d) 25% decrease

Exercise 2

The price of petrol increases from \$0.75/L to \$0.80/L. What is this increase as a %?

ANSWERS:
 Exercise 1:
 a) \$3
 b) \$4
 c) \$6
 d) \$1.50
 Exercise 2: 6.67%

STUDENT LEARNING CENTRE
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