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: \( \text{Total cost including GST} = \text{cost excluding GST} + 10\% \text{ of cost excluding GST} \)

Step 1) Apply the formula \( x = 7.90 + 0.10 \times 7.90 \)

Step 2) Simplify \( 7.90 + 0.79 = 8.69 \)

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: \( \text{percent of mark up} = \frac{\text{selling price} - \text{purchase price}}{\text{purchase price}} \)

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 \( 0.45 \times 100 = 45\% \)

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: \( \text{Percent of discount} = \frac{\text{original price} - \text{discount price}}{\text{original price}} \)

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% × original price
= commission% × 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% × $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 %?