Percentage
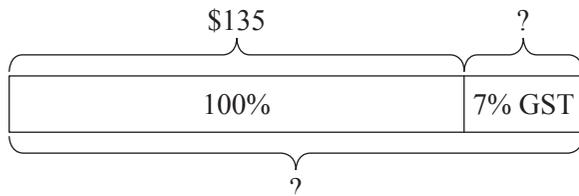
The price of a dress is $135 excluding 7% GST. Find the price of the dress after the 7% GST is included.

Solution:

We need to find the amount for 7% GST:

$100\% \rightarrow \$135$

$1\% \rightarrow ?$

$\$135 \div 100\% = \$1.35$

$1\% \rightarrow \$1.35$

$7\% \rightarrow ?$

$\$1.35 \times 7 = \$9.45$

Since the amount for 7% GST is $9.45, we can find the price of the dress including the GST:

$\$135 + \$9.45 = \$144.45$

The price of the dress is **$144.45**.

1 Jenny had some blue and red pens. 45% of them were blue pens and the rest were red pens. Find the total number of pens if there were 60 fewer blue pens than red pens.

2 Mr Li had some money. He spent 15% of it on a television set and 10% of the remainder on a washing machine. He then spent another 20% of the remaining sum on a dining table and some chairs. If he had $5202 left, how much did he have at first?

3 Shop A sold a dress for $126 after a discount of 25%. Shop B sold a similar dress at a discounted price of $117.60. Find the percentage discount given by Shop B.

Percentage

1.
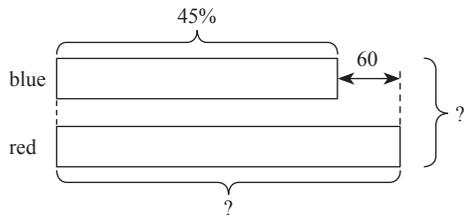
First, find the percentage of red pens since 45% of the pens were blue:
Blue pens → 45%
Red pens → 100% – 45% = 55%

Then, find the percentage difference between blue and red pens since there were 60 fewer blue pens than red pens:
55% – 45% = 10%

Since we know that 10% represents 60 pens, we can find the number of pens represented by 1%:
10% → 60 pens
1% → ? pens
60 ÷ 10 = 6

Lastly, find the total number of blue and red pens:
1% → 6 pens
100% → ? pens
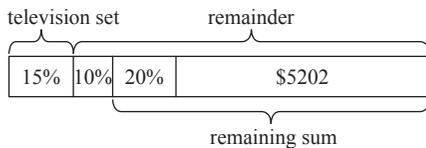6 × 100 = 600
There were **600** pens altogether.

2.

For this question, we need to calculate backwards. First, find the cost of the dining table and chairs, followed by the washing machine and then the television set.

Since 20% was spent on the dining table and chairs, we can find the percentage for $5202:
Percentage for the dining table and chairs → 20%
Percentage for $5202 → 100 – 20% = 80%

We can also find the amount of money he had before he bought the dining table and chairs:
80% → $5202
1% → ?
$5202 ÷ 80 = $65.025
100% → ?
$65.025 × 100 = $6502.50

Now, we can find the percentage for $6502.50 since 10% was spent on the washing machine:
Percentage for the washing machine → 10%
Percentage for $6502.50 → 100 – 10% = 90%

We can also find the amount of money he had before he bought the washing machine:
90% → $6502.50
1% → ?
$6502.50 ÷ 90 = $72.25
100% → ?
$72.25 × 100 = $7225

Now, we can find the percentage for $7225 since 15% was spent on the television set:
Percentage for the television set → 15%
Percentage for $7225 → 100 – 15% = 85%

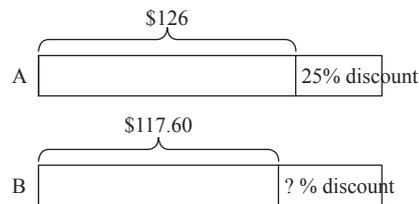Lastly, we can find the amount of money he had before he bought the television set:
85% → $7225
1% → ?
$7225 ÷ 85 = $85
100% → ?
$85 × 100 = $8500
He had **$8500** at first.

3.

First, find the percentage in the sale price in Shop A since the percentage discount was 25%:
100% – 25% = 75%

We can now find the price of the dress before the discount:
75% → $126
1% → ?
$126 ÷ 75 = $1.68
100% → ?
$1.68 × 100 = $168

Then, find the percentage discount given by Shop B. We will take the original price of the dress minus the sale price of the dress sold in Shop B and then multiply by 100%:
Sale price → $117.60
% discount = ?
$168 – $117.60 = $50.40
$$\frac{\$50.40}{\$168} \times 100\% = 30\%$$

The percentage discount given by Shop B was **30%**.