

Lesson 13: Word Questions
(3 types)

Nov 22, 2022

New Cost/Price of sthg Increased/Decreased
by a %

ex. The shirt was \$15, but you get a discount of 2 fifths of that price.

$$NC = 15 - \frac{2}{5} \times 15$$

$$NC = 15 - 40\% \times 15$$

no good for calculator.

$$NC = 15 - 0.4 \times 15$$

<< you get a 40% discount >>
of original price
of original price

p13.4

Ex. 1. Rick buys a 40\$ book on which there's a 20% discount. How much will he pay?

Fraction

Decimal

Short cut

New Discount Price = Original Price - 20% · OP

$$DP = 40 - \frac{20}{100} \times 40$$

$$= \$32$$

$$DP = 40 - 0.2 \times 40$$

$$= \$32$$

$$DP = \frac{80}{100} \times 40$$

$$= \$32$$

$$DP = \frac{1}{1} \cdot 40 - \frac{20}{100} \cdot 40$$

You do:

You went to a 30% off sale. The boots you wanted originally cost \$150. How much did you pay?

$$DP = 1 - 40 - 0.2 \cdot 40$$

$$DP = (1 - 0.2) \cdot 40$$

$$DP = 0.8 \times 40$$

$$DP = \frac{100}{100} \cdot 40 - \frac{20}{100} \cdot 40$$

$$DP = \frac{100 - 20}{100} \cdot 40$$

$$DP = \frac{80}{100} \cdot 40$$

Then handout
P13.8 - 13.9
Check your answers

Two-Step Increase + Decrease Questions

e.x. Gabriel buys a \$50 book on which there's a 30% discount. If tax is 12.5%, how much will he pay?

WANT: Total price he'll pay

TOOL: $T.P. = \text{Discount Price of book} + \text{taxes}$

$T.P. = D.P. \text{ of book} + 12.5\% \times D.P. \text{ of book}$

INF: $D.P. = ?$

WANT: D.P. of book
TOOL: $DP = \text{Original Price} - 30\% \times O.P.$

INFO: $O.P. = 50 \$$

You do it. and then handout "Lesson 13"

\$39.375
to the nearest 100th since \$
\$39.38

Finding the Percentage Word
(the Fractions) Question

find, divide, $\times 100\%$
(decimal) = 30%

\$\$\$ that's your

Recall: your dad spent $\frac{8}{10}$ of his wealth.

What fraction of his wealth remains?

more common

What percentage of his wealth remains?

$\frac{\% \text{ remaining}}{(-)}$
 $\frac{\% \text{ remaining}}{}$
 $= \text{whole} - \%$
 $= 100\% - 30\%$

fraction = whole - fraction remaining
 $\frac{\text{fraction remaining}}{}$
 $= \frac{100}{100} - \frac{8}{10}$

$\frac{\% \text{ remaining}}{}$
 $= \frac{\text{all of his wealth}}{}$
 $= 20\%$

f.r. = $1 - \frac{8}{10}$
 f.r. = $\frac{10}{10} - \frac{8}{10}$
 f.r. = $\frac{10-8}{10}$
 f.r. = $\frac{2}{10} = 0.2 = 20\%$

e.g.

A student came to school 10 out of 15 days. Find the % of time they were absent.

same

TOOL:

$$\text{fraction} = \frac{\text{part}}{\text{whole}}$$

$$\% = \frac{\text{part}}{\text{whole}} \times 100\%$$

(which part)

$$\% = \frac{5}{15} \times 100\%$$

$$\% = 33.\dot{3}\%$$

absent → only 2 option present absent

$$\%_{\text{present}} = 100\% - \%_{\text{absent}}$$

$$= 100\% - 33.\dot{3}\%$$

$$= 66.\dot{6}\%$$

$$\rightarrow \frac{10}{15} \times 100\%$$