

Lesson 6.6a Discounts and Markups

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Discount - decrease in the original price of an item

$$a = p \cdot w$$

sale amount \rightarrow a \swarrow % discount p w \leftarrow regular price

* The sale amount needs to be subtracted from the regular price to find the sale price

Ex.1 A pair of shorts cost \$40. They are on sale for 25% off. What is the sale price?

Handwritten work for Ex.1:

$$a = p \cdot w$$

$$a = 0.25 \cdot \$40$$

$$a = \$10$$

\$40 \leftarrow original price
 $-\$10 \leftarrow$ sale amount

 \$30 \leftarrow sale price

The shorts are \$30.

* The sale percentage needs to be subtracted from 100% in order to find the original price

Ex.2 If shoes were 40% off and cost \$33, what was the original price?

Handwritten work for Ex.2:

$$a = p \cdot w$$

$$\frac{\$33}{0.6} = 0.6 \cdot w$$

$$\$55 = w$$

The original price was \$55.

Diagram: A bar representing 100% is divided into four 25% segments. The first two segments (50%) are labeled "sale" and the last two (50%) are labeled "orig.". The total length is labeled "Sale price = \$33".

100% \leftarrow orig.
 $-\ 40\% \leftarrow$ sale
 60% \leftarrow cost

Ex.3 Vans are on a 25% discount. It is on sale for \$12. What is the original price?

Handwritten work for Ex.3:

$$a = p \cdot w$$

$$\frac{\$12}{0.75} = 0.75 \cdot w$$

$$\$16 = w$$

The original price was \$16.

Diagram: A bar representing 100% is divided into four 25% segments. The first three segments (75%) are labeled "sale" and the last one (25%) is labeled "orig.". The total length is labeled "sale price".

100%
 $-\ 25\%$
 75%