

Problem Solving with Decimals & Percent

The ugliest jacket

Gordon's Sporting Goods had sold all its windbreaker jackets except for one. It was so ugly no one wanted to buy it. So Gordon's put the jacket on sale at one-fourth off its original price. The jacket did not sell, so Gordon's marked the sales price down one-third off. Still no one wanted to buy such an ugly jacket, so Gordon's marked the second sales price down one-half off. Finally, customer Ernie Harrison bought the jacket for his cat to sleep on. Ernie paid only \$12 for the world's ugliest jacket. What was the original price of the jacket? What did the jacket look like?

The ugliest jacket

\$48

$$\begin{array}{r} 6445 \\ 288 \\ \times .75 \\ \hline 1440 \\ 2016 \\ \hline 21600 \end{array}$$

\$12 must be the remaining half.

$$\$12 \cdot 2 = \$24.$$

\$24 must be $\frac{2}{3}$ of "1/4 off."

$$\$24 / \frac{2}{3} = \$36.$$

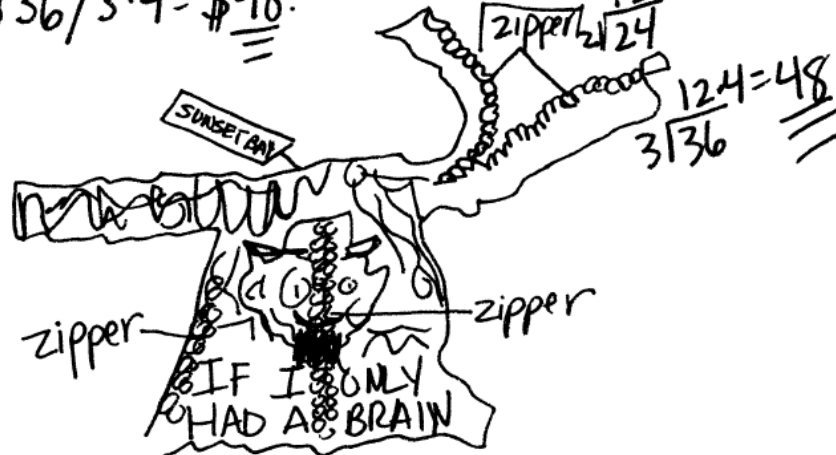
\$36 must be $\frac{3}{4}$ of the original.

$$\$36 / \frac{3}{4} = \underline{\underline{\$48.}}$$

$$\begin{array}{r} 12 \\ \times 2 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 12 \cdot 3 = 36 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 12 \cdot 4 = 48 \\ \hline 3 \cdot 36 \end{array}$$



The ugliest jacket

$\begin{array}{r} 12 \\ +12 \\ \hline 24 \\ 8 \\ 3 \overline{)24} \\ \phantom{3 \overline{)24}}+8 \\ \hline 32 \end{array}$	$\begin{array}{r} \$40 \\ \frac{1}{4} \text{ off} \\ \hline 30 \\ \frac{1}{3} \text{ off} \\ \hline 20 \end{array}$	$\begin{array}{r} \$44 \\ \frac{1}{4} \text{ off} \\ \hline 33 \\ \frac{1}{3} \text{ off} \\ \hline 22 \end{array}$
$\begin{array}{r} 4 \overline{)32} \\ \phantom{4 \overline{)32}}+8 \\ \hline \$40 \end{array}$	$\begin{array}{r} \$46 \\ \frac{1}{4} \text{ off} \\ \hline \$34.50 \\ \frac{1}{3} \text{ off} \\ \hline 23 \end{array}$	$\begin{array}{r} \textcircled{\$48} \\ \frac{1}{4} \text{ off} \\ \hline 36 \\ \frac{1}{3} \text{ off} \\ \hline 24 \\ \frac{1}{2} \text{ off} \\ \hline 12 \end{array}$

Source: Mathematics Teaching in the Middle School (2002)

The ugliest jacket

$\$48$

Before	After
\$288	\$72
\$72	\$24
\$24	\$12

$24 \frac{1}{3} \frac{1}{2} 72$

Before Sale	After Sale
\$48	\$36
\$36	\$24
\$24	\$12

Source: Mathematics Teaching in the Middle School (2002)

The ugliest jacket

original price

original price at $\frac{1}{4}$ off

1st sales price marked down $\frac{1}{3}$

2nd sales price marked down $\frac{1}{2}$

earnie paid
12 dollars
for 1

original price \$48.00

jacket looked like

$$\begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array}$$

Source: Mathematics Teaching
in the Middle School (2002)