3-4-9 Two Step Equation Percentages

A $20 sweater would have $0.05 \cdot 20 =$ $1 tax added. The total would be $20 + 0.05 \cdot 20 = \$21$

In a state with 6% sales tax an item that costs y dollars at the check out stand would have 0.06y tax added. The total required would be y+0.06y. If the total at the check out was $15 the equation would be y+.06y=15. Combine like terms and solve for y yields $14.15

A $40 item that is 30% off will be $40 - 0.30 \cdot 40 = \$28$ on sale.

An item that originally costs x dollars and is 20% off would have 20% of x subtracted for a sale price of $x - 0.2 \cdot x$. If the result is a sale price of $51 the original price can be found by solving the equation. $x - 0.2 \cdot x = 51$ x=$63.75

All sweaters 45% off
All shoes 72% off
All tools 15%

Practice: Use the advertisement and tax chart to find the following.

a) A pair of shoes originally cost $30. What is the sale price? What is the final price of the sandals? They were sold in Texas.

The sale price of a sweater originally $90. The final price after tax of the sweater above in Nevada.

The sale price of a hammer regularly $15. The final price after tax of the above purchased in California.

b) Jan bought shoes originally $45 and a drill originally $150. What is the total sale? What is the total after tax if Jan makes the purchase in Vermont?

Tim wants to buy running shoes regularly $120 and a sweater originally $75. After tax in Idaho what will he spend?

A $45 sweater, two pairs of shoes at $20 each and a hammer at $10 all are on sale in Kansas. What is the total at the cash register?

c) The whole sale price of a wrench was $8. The markup is 75%. What is the retail price? What is the sale price? What is the profit?

The whole sale price of a pair of shoes is $20. The mark up was 120%. What is the retail price? What is the sale price? What is the profit?

The retail price of a saw is $90. If the mark up was 95%, what was the wholesale price? What is the price when it goes on sale?

d) A sweater is on sale for $60. What was the original price?

A saw was on sale for $125. What was the original price?

Jackie bought shoes on sale for $45. What was the original price?

e) Tammy found a sweater and a pair of shoes that were originally the same price for a total of $89. What was the original price?

A socket set is regularly twice as much a pair of sneakers. They regularly total $140. What is the sale price of each?

3 pairs of shoes (each the same price) are on sale for a total of $85. How much was one pair at the regular price?

f) Two sweaters total $145 on sale. If one sweater is $5 more than the other what was the original price of each?

3 identical sweaters are on sale for $50 altogether. What was the original cost of one sweater?

A wrench costs half what a car tool set costs. The total sale price is $35. What was the original price?

State Sales Tax Rates

State	Tax Rates	State	Tax Rates
ALABAMA	4	NEVADA	6.5
ALASKA	none	NEW HAMPSHIRE	none
ARIZONA	5.6	NEW JERSEY	6
ARKANSAS	5.125	NEW MEXICO	5
CALIFORNIA (3)	7.25	NEW YORK	4
COLORADO	2.9	NORTH CAROLINA	4.5
CONNECTICUT	6	NORTH DAKOTA	5
DELAWARE	none	OHIO	5
FLORIDA	6	OKLAHOMA	4.5
GEORGIA	4	OREGON	none
HAWAII	4	PENNSYLVANIA	6
IDAHO	5	RHODE ISLAND	7
ILLINOIS (2)	6.25	SOUTH CAROLINA	5
INDIANA	5	SOUTH DAKOTA	4
IOWA	5	TENNESSEE	6
KANSAS	4.9	TEXAS	6.25
KENTUCKY	6	UTAH	4.75
LOUISIANA	4	VERMONT	5
MAINE	5	VIRGINIA	4.5
MARYLAND	5	WASHINGTON	6.5
MASSACHUSETTS	5	WEST VIRGINIA	6
MICHIGAN	6	WISCONSIN	5
MINNESOTA	6.5	WYOMING (3)	4
MISSISSIPPI	7		
MISSOURI	4.225	DIST. OF COLUMBIA	5.75
MONTANA	none		
NEBRASKA	5		