• Attendance
• Return Quiz
• Questions on Unit 1

Review Test for Test on Unit 1 - handout
Review Test, S75

Homework: Topic 11 pages S75
Phillips Hardware Store is having a 20% off sale. Find the sale price of the following items.

Remember that original price minus discount equals sale price.

\[
\text{sale price} = \text{original} - \text{discount}
\]

<table>
<thead>
<tr>
<th>PreSale Price</th>
<th>Discount</th>
<th>Sale Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>0.20(60) = 12</td>
<td>60 - 0.20(60) = 48</td>
</tr>
<tr>
<td>50</td>
<td>0.20(50) = 10</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>0.20(40) = 8</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>0.20(X)</td>
<td></td>
</tr>
</tbody>
</table>
\[5x - 8 = 2x + 7\]

\[-2x \quad -2x\]

\[\frac{3x - 8 = 7}{+8 \quad +8}\]

\[\frac{3x}{3} = \frac{15}{3}\]

\[x = 5\]
\[-3(4x + 5) = 5x + 2\]

\[-12x - 15 = 5x + 2\]

\[+15\quad 15\]

\[-12x = 5x + 17\]

\[-5x - 5x\]

\[-17x = \frac{17}{-17}\]

\[x = -1\]
<table>
<thead>
<tr>
<th>Miles</th>
<th>Calculations</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>4.50</td>
</tr>
<tr>
<td>10</td>
<td>$.75(10 - 4) + 4.50</td>
<td>9.00</td>
</tr>
<tr>
<td>m</td>
<td>$.75(m - 4) + 4.50</td>
<td></td>
</tr>
</tbody>
</table>

\[ C = 0.75(m - 4) + 4.50 \]
\[ = 0.75m - 3 + 4.50 \]
\[ = 0.75m + 1.50 \quad m > 4 \]
\[ C = 0.75m + 1.50 \]

\[ 23.25 = 0.75m + 1.50 \]

\[ -1.50 \]

\[ 21.75 = 0.75m \]

\[ 29 \text{ miles} = m \]
Phillips Hardware Store is having a 20% off sale. A step ladder has a sale price of $44. What was the price before the sale?

Let \( x \) = original price

\[
\text{S.P.} = 0.8x \\
44 = 0.8x \\
\frac{44}{0.8} = \frac{0.8x}{0.8} \\
\Rightarrow x = 55
\]
A math teacher computes a student's grade for a course as follows: 10% for homework; 65% for test average; 25% for final exam. Compute Bill's grade for the course if he has 78 for homework; 81 for test average; 79 on final exam.

\[ G = 0.10(78) + 0.65(81) + 0.25(79) \]
\[ = 7.8 + 52.65 + 19.75 = 80.2 \]
A math teacher computes a student's grade for a course as follows: 10% for homework, 65% for test average, 25% for final exam. Suppose Sue has an 82 homework average and a 63 test average. What does Sue have to get on the final exam to get a 70 for the course?

Let \( X = \text{exam grade} \)

\[
G = 0.10(82) + 0.65(63) + 0.25X
\]

\[
70 = 8.2 + 40.95 + 0.25X
\]

\[
70 = 49.15 + 0.25X
\]

\[
-49.15 = -49.15
\]
A math teacher computes a student's grade for a course as follows: 10% for homework, 65% for test average, 25% for final exam. Suppose Sue has an 82 homework average and a 63 test average. What does Sue have to get on the final exam to get a 70 for the course?
1. WWW Drillers charge their customers $350.00 to come to the well site and $20.00 per foot to drill a well.

a. Complete the table.

<table>
<thead>
<tr>
<th>DEPTH OF WELL</th>
<th>CALCULATION</th>
<th>COST ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>20(50) + 350</td>
<td>1350</td>
</tr>
<tr>
<td>70</td>
<td>20(70) + 350</td>
<td>1750</td>
</tr>
<tr>
<td>90</td>
<td>20(90) + 350</td>
<td>2150</td>
</tr>
<tr>
<td>d</td>
<td>20d + 350</td>
<td></td>
</tr>
</tbody>
</table>

\[ C = 20d + 350 \]
1. WWW Drillers charge their customers $350.00 to come to the well site and $20.00 per foot to drill a well.

If a person is charged $2,150.00 for a well, how deep is the well?

\[ C = 20d + 350 \]

\[ 2150 = 20d + 350 \]

\[ -350 \quad -350 \]

\[ 1800 = 20d \]

\[ \frac{1800}{20} = \frac{20d}{20} \]

\[ 90 = d \]

90 feet
Take – Taxi Co. charges $1.35 immediately upon entering the taxi. The first 3 miles are free, and after that it costs $1.80 per mile.

Complete the table.

<table>
<thead>
<tr>
<th>MILES</th>
<th>CALCULATION</th>
<th>COST ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Take –Taxi Co. charges $1.35 immediately upon entering the taxi. The first 3 miles are free, and after that it costs $1.80 per mile.

Complete the table.

<table>
<thead>
<tr>
<th>MILES</th>
<th>CALCULATION</th>
<th>COST ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>$1.80(10-3) + 1.35</td>
<td>13.95</td>
</tr>
<tr>
<td>15</td>
<td>$1.80(15-3) + 1.35</td>
<td>22.95</td>
</tr>
<tr>
<td>20</td>
<td>$1.80(20-3) + 1.35</td>
<td>31.95</td>
</tr>
<tr>
<td>m</td>
<td>$1.80(m-3) + 1.35</td>
<td></td>
</tr>
</tbody>
</table>

\[ C = 1.80(m-3) + 1.35 \]
\[ C = 1.80m - 5.40 + 1.35 \]
\[ C = 1.80m - 4.05 \quad m > 3 \]
Take – Taxi Co. charges $1.35 immediately upon entering the taxi. The first 3 miles are free, and after that, it costs $1.80 per mile.

If it cost $27.50, how far was your ride?
Professor Failure computes his grades as follows:
Tests: 60%; Homework: 15%; Final Exam: 25%

Otto has a test average of 82, homework average of 99, and a final exam score of 71. What is Otto’s grade for the course?
<table>
<thead>
<tr>
<th>Cost</th>
<th>Sale Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>$7.50</td>
</tr>
<tr>
<td>17</td>
<td>12.75</td>
</tr>
<tr>
<td>C</td>
<td>$15.93</td>
</tr>
</tbody>
</table>

Cost:

\[
SP = .75C \\
11.95 = .75C \\
\frac{.75}{.75} = C = $15.93
\]
\(3(2x - 5) = 16x + 3\)

\(6x - 15 = 16x + 3\)
\[4(3x + 2) = 7\]

\[12x + 8 = 7\]  \[\text{Distributive Property}\]

\[12x + 8 - 8 = 7 - 8\]  \[\text{Add equals to both sides}\]

\[12x = -1\]  \[\text{Closure}\]

\[\frac{12x}{12} = \frac{-1}{12}\]  \[\text{Divide both sides by equals}\]

\[x = -0.0083\]  \[\text{Closure}\]
\[ 112 + 210 - 95 - 162 + 73 \]

\[ 395 - 257 = 138 \]
73 - (-162)
73 + 162 = 235
\[ 2x + 3y = 6 \]
\[ -2x \]
\[ \frac{3y}{3} = 6 - 2x \]
\[ \frac{x}{3} = 6 - 2x \]
\[ y = 6 - 2x \]
\[ -2 - \frac{2}{3}x \]
Professor Failure computes his grades as follows:
Tests: 60%; Homework: 15%; Final Exam: 25%

Tito has a test average of 71 and a homework average of 76. What does Tito have to get on the final to get a 70 for the course?
Clancy’s Burgers has given a 12% raise to all of its employees.

Complete the table below.

<table>
<thead>
<tr>
<th>OLD SALARY</th>
<th>CALCULATION</th>
<th>NEW SALARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.00 per hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$3.00 per hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X per hr</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Clancy’s Burgers has given a 12% raise to all of its employees.

What is the equation that relates old salary to new salary?

New Salary = Raise + Old Salary

Let $x = \text{Old Salary}$
Clancy’s Burgers has given a 12% raise to all of its employees. What is the equation that relates old salary to new salary?

\[ \text{NS} = 0.12x + x \]

\[ \text{NS} = 0.12x + 1x \quad \text{The coefficient of } x \text{ is 1} \]
Clancy’s Burgers has given a 12% raise to all of its employees.

If your new salary is $5.25 per hour, what was your old salary?
Stats Department store is having a 20% off sale.

Complete the table

<table>
<thead>
<tr>
<th>ORIGINAL PRICE</th>
<th>CALCULATION</th>
<th>SALE PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Stats Department store is having a 20% off sale.

What is the equation that relates the original price to the sale price?

Original Price – Discount = Sale Price
Stats Department store is having a 20% off sale.

If the sale price was $81.00, what was the original price?
The graph shows the net profits and losses for Rose Stores for the years 1990 through 1993.
The graph shows the net profits and losses for Rose Stores for the years 1990 through 1993.

What is the difference between the profit or loss in 1990 and that in 1992?
The graph shows the net profits and losses for Rose Stores for the years 1990 through 1993.

What is the difference between the profit or loss in 1993 and that in 1991?
Simplify \(-2(x - 3) + 2(4 - x)\)
Is \( x = -3 \) a solution to \( x^2 + 6x + 9 = x + 3 \)?
Solve: $7x - 8 = -29$
Solve: \[ 8x - 3(4x - 5) = -2x - 11 \]
11. A business manager has determined that the cost per unit for a camera is $70 and that the fixed costs per month are $3,500. Find the number of cameras that are produced during a month in which the total cost was $21,000. Use the equation

\[ T = U \times N + F \]

where \( T \) is the total cost, \( U \) is the cost per unit, \( N \) is the number of units produced, and \( F \) is the fixed cost.

$P = 2W + 2L$