Percentage Determination Practice

Name: _____   Date: _____

Question 1

Solve the percentage problems

I. Willow learns her favorite drink, an Orange Raspberry Double Iced Rush, is 50% off today. If the drink normally costs $2.55, how much does it cost today?

II. A business owner determines his business has had a 15% decrease in profit compared to last year. If the profit from the previous year was $37,000, what is the profit this year?

III. Lacy takes a class where homework makes up 100% of her grade. In this class, 270 points can be earned. To pass this class, a score of 168 points is required. If Lacy correctly completes 68% of her homework, can she pass the class?

Percentage Determination Practice

IV. What percentage of months do September, October, and November make up?

V. A scientist studying variations in plants must determine the percentage of yellow-spotted plants grown in a laboratory. If 5 red-spotted plants, 80 spotless plants, 10 blue-spotted plants, and 5 yellow-spotted plants are grown, what percentage of plants have yellow spots?

VI. Presley, a civil engineer, measures a panel to be thirty and one-half inches. If she wants to cut the panel to 60% of its original size, how many inches is the new panel?

Percentage Determination Practice

Name: **Key**   Date: _____

Question 1

Solve the percentage problems

I. Willow learns her favorite drink, an Orange Raspberry Double Iced Rush, is 50% off today. If the drink normally costs $2.55, how much does it cost today?
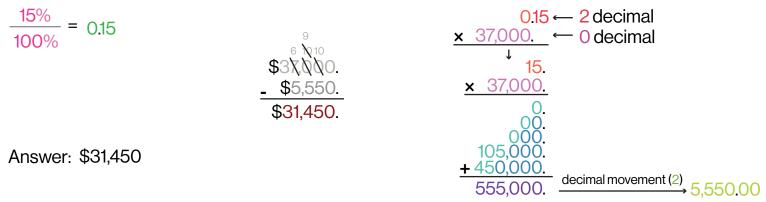
$$\frac{50\%}{100\%} = 0.50$$

$$
\begin{array}{r}
0.5 \quad \leftarrow 1\text{ decimal} \\
\times \quad 2.55 \quad \leftarrow 2\text{ decimal} \\
\hline
\downarrow
\end{array}
$$

$$
\begin{array}{r}
05. \\
\times\ 255. \\
\hline
25. \\
250. \\
+\ 1000. \\
\hline
1275.
\end{array}
$$

decimal movement (3) → 1.275

Answer: $1.28

II. A business owner determines his business has had a 15% decrease in profit compared to last year. If the profit from the previous year was $37,000, what is the profit this year?

$$\frac{15\%}{100\%} = 0.15$$

$$
\begin{array}{r}
9 \\
6\ \cancel{10}\ 10 \\
\$3\cancel{7},\cancel{0}\cancel{0}0. \\
-\quad \$5,550. \\
\hline
\$31,450.
\end{array}
$$

$$
\begin{array}{r}
0.15 \quad \leftarrow 2\text{ decimal} \\
\times\ 37,000. \quad \leftarrow 0\text{ decimal} \\
\hline
\downarrow
\end{array}
$$

$$
\begin{array}{r}
15. \\
\times\ 37,000. \\
\hline
0. \\
00. \\
000. \\
105,000. \\
+\ 450,000. \\
\hline
555,000.
\end{array}
$$

decimal movement (2) → 5,550.00

Answer: $31,450

III. Lacy takes a class where homework makes up 100% of her grade. In this class, 270 points can be earned. To pass this class, a score of 168 points is required. If Lacy correctly completes 68% of her homework, can she pass the class?

$$\frac{68\%}{100\%} = 0.68$$

$$
183.6 \quad \boxed{>} \quad 168
$$

$$
\begin{array}{r}
0.68 \quad \leftarrow 2\text{ decimal} \\
\times\ 270. \quad \leftarrow 0\text{ decimal} \\
\hline
\downarrow
\end{array}
$$

$$
\begin{array}{r}
68. \\
\times\ 270. \\
\hline
0. \\
4,760. \\
+\ 13,600. \\
\hline
18,360.
\end{array}
$$

decimal movement (2) → 183.60

Answer: Yes, Lacy will pass the class if she correctly completes 68% of her homework.

Percentage Determination Practice

IV. What percentage of months do September, October, and November make up?

```
        0.25
   12 | 3.00
      - 24 ↓
         60
       - 60
          0
```

$0.25 \cdot 100\% = 25\%$

Answer: 25%

V. A scientist studying variations in plants must determine the percentage of yellow-spotted plants grown in a laboratory. If 5 red-spotted plants, 80 spotless plants, 10 blue-spotted plants, and 5 yellow-spotted plants are grown, what percentage of plants have yellow spots?

```
         0.05
   100 | 5.00
       - 500
           0
```

$0.05 \cdot 100\% = 5\%$

Answer: 5%

VI. Presley, a civil engineer, measures a panel to be thirty and one-half inches. If she wants to cut the panel to 60% of its original size, how many inches is the new panel?

$$30 \frac{1}{2} \longrightarrow \frac{61}{2}$$

```
        30.5
    2 | 61.0
      - 6 ↓ ↓
        010
       - 10
          0
```

$$\frac{60\%}{100\%} = 0.60$$

```
       0.6    ← 1 decimal
   ×  30.5    ← 1 decimal
         ↓
       6.
   × 305.
      30.
      00.
 + 1,800.
   1,830.   decimal movement (2)   18.30
```

Answer: 18.3 inches

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