

Chapter 9 PRACTICE Test: Percents

Part A: Lawn Mowing Earnings

1. This summer you hope to earn \$600 mowing lawns. In June you earned \$180. In July you earned \$225. What is the percent of change for your earnings from June to July?

$$225 - 180 = 45$$

$$45 \div 180 \times 100 = 25\% \text{ increase}$$

↑ change ↑ original

2. In August you earned 90% of what you earned in July. How much did you earn in August?

$$90\% \text{ of } 225$$

$$0.90 \times 225 = \$202.50$$

OR $\frac{x}{225} = \frac{90}{100}$

3. How much money did you earn through mowing lawns in June, July, and August?

$$180 + 225 + 202.50 = \$607.50$$

4. Did you meet your goal? *yes*

5. Your parents told you to put 70% of your summer earnings into a savings account. How much money will you have to put in savings?

$$70\% \text{ of } \$607.50$$

$$0.70 \times 607.50 = \$425.25$$

OR $\frac{x}{607.50} = \frac{70}{100}$

6. What fraction of your summer earnings will have to be put in your savings account? (Write in simplest form.)

$$70\% = \frac{70}{100} = \left(\frac{7}{10}\right)$$

7. A bank offers you a simple annual interest rate of 4.5%. In 3 years how much interest will you earn?

$$I = prt$$

$$I = 425.25 \times 0.045 \times 3$$

$$P = 425.25$$

$$r = 0.045$$

$$t = 3$$

$$\$57.41 \text{ interest}$$

8. What will be the balance of the account after 3 years if you make no other deposits or withdrawals?

principal + interest

$$425.25 + 57.41 = \$482.66$$

9. Your older sister earned \$27 interest on \$450 over the last two years. What interest rate did the bank offer her?

$$I = prt$$

$$27 = 450 \times r \times 2$$

$$27 = 900 \times r$$

$$\frac{27}{900} = \frac{900r}{900}$$

$$r = 0.03 = \textcircled{3\%}$$

Part B: School Shopping

10. After putting part of your lawn mowing earnings in a saving account, how much money do you have left to spend on school shopping?

$$\begin{array}{r} 607.50 \\ - 425.25 \\ \hline \textcircled{\$182.25} \end{array}$$

11. Even though you should spend your money on school supplies, you decide to treat two friends to lunch. If the food bill totals \$32 for the 3 of you (you + 2 friends) and you pay 6.5% tax and leave your server a 20% tip. What is your total lunch bill?

a. Tax = $0.065 \times 32 = \$2.08$

b. Tip = $0.20 \times 32 = \$6.40$

c. Total = $32 + 2.08 + 6.40 = \textcircled{\$40.48}$

12. After lunch you buy three pairs of jeans that are \$28 each. Thankfully, the store offers a 30% discount. How much do you pay for the jeans?

$$3 \times 28 = 84$$

$$30\% \text{ of } 84 =$$

$$0.30 \times 84 = 25.20$$

$$84.00 - 25.20 = \textcircled{\$58.80}$$

13. Then you find a pair of shoes that you would like to buy. The wholesale price of the shoes was \$50, but the store uses a 60% markup. Do you have enough money to buy the shoes?

Explain how you know.

$$182.25 - (40.48 + 58.80)$$

$$182.25 - 99.28 = \$82.97 \text{ left}$$

$$60\% \text{ of } 50$$

$$0.60 \times 50 = \$30 \text{ mark up}$$

$$50 + 30 = \$80 \text{ shoes}$$

Yes, I have enough money. I have \$2.97 left over.