

** ALL WORK SHOWN BELOW*



LESSON 6-6 Practice B Simple Interest

Find each missing value.

1. $p = \$1,500, r = 5\%, t = 3$ years
 $I =$ $\$225$

2. $p = \$6,000, r = 4\%, t = 2$ years
 $I =$ $\$480$

3. $I = \$30, r = 4\%, t = 2$ years
 $p =$ $\$375$

4. $I = \$180, r = 5\%, t = 3$ years
 $p =$ $\$1,200$

5. $I = \$20, p = \$250, t = 2$ years
 $r =$ 4%

6. $I = \$144, p = \$800, t = 3$ years
 $r =$ 6%

7. $p = \$525, r = 3\%, t = 1$ year
 $I =$ $\$15.75$

8. $p = \$3,200, r = 6\%, t = 4$ years
 $I =$ $\$768$

9. $I = \$450, r = 6\%, t = 4$ years
 $p =$ $\$1,875$

10. $I = \$1,440, r = 3\%, t = 5$ years
 $p =$ $\$9,600$

11. $I = \$1,275, p = \$5,100, t = 5$ years
 $r =$ 5%

12. $I = \$3,920, p = \$14,000, t = 4$ years
 $r =$ 7%

13. $p = \$1,300, r = 4.5\%, t = 6$ months
 $I =$ $\$29.25$

14. $I = \$47.25, r = 3.5\%, t = 1.5$ years
 $p =$ $\$900$

15. $I = \$891, p = \$2,700, t = 5.5$ years
 $r =$ 6%

16. $I = \$126, p = \$400, t = 9$ years
 $r =$ 3.5%

17. You deposit \$2,500 in an account that earns 4% simple interest. How long will it be before the total amount is \$3,000?

$I = P \cdot r \cdot t$
 $500 = 2500(0.04) \cdot t$
 $500 = 100t$
5 year

18. You deposit \$5,000 in account that earns 6.5% simple interest. How much will be in the account after 3 years?

$\$5,975$

19. A deposit of \$10,000 was made to an account the year you were born. After 12 years, the account is worth \$16,600. What simple interest rate did the account earn?

5.5%

20. How long will it take for \$6,500 to double at a simple interest rate of 7%? Round to the nearest tenth of a year.

14.3 yrs.

$$\begin{aligned} \textcircled{1} \quad I &= p \cdot r \cdot t \\ I &= \$1,500 \cdot (0.05) \cdot 3 \\ I &= \$225 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad I &= p \cdot r \cdot t \\ 30 &= p \cdot (0.04) \cdot 2 \\ 30 &= 0.08p \\ \frac{30}{0.08} &= \frac{0.08p}{0.08} \\ \$375 &= p \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad I &= p \cdot r \cdot t \\ 20 &= 250 \cdot r \cdot 2 \\ 20 &= 500r \\ \frac{20}{500} &= \frac{500r}{500} \\ 0.04 &= r \\ 4\% &= r \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad I &= p \cdot r \cdot t \\ I &= 525 \cdot (0.03) \cdot 1 \\ I &= \$15.75 \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad I &= p \cdot r \cdot t \\ 450 &= p \cdot (0.06) \cdot 4 \\ 450 &= 0.24p \\ \frac{450}{0.24} &= \frac{0.24p}{0.24} \\ \$1875 &= p \end{aligned}$$

$$\textcircled{11.} \quad I = p \cdot r \cdot t$$

$$1275 = 5,100 \cdot r \cdot 5$$

$$\frac{1275}{25,500} = \frac{25,500 r}{25,500}$$

$$(0.05) = r$$

$$5\% = r$$

$$\textcircled{13.} \quad I = p \cdot r \cdot t$$

$$I = 1,300 \cdot (0.045) \cdot (0.5)$$

$$I = \$29.25$$

$$\textcircled{15.} \quad I = P \cdot r \cdot t$$

$$891 = 2700 \cdot r \cdot (5.5)$$

$$891 = 14850 r$$

$$\frac{891}{14850} = \frac{14850 r}{14850}$$

$$0.06 = r$$

$$6\% = r$$

$$\textcircled{17.} \quad I = p \cdot r \cdot t$$

$$500 = 2500 \cdot (0.04) t \quad \begin{array}{r} 3,000 \\ -2500 \\ \hline \end{array}$$

$$\frac{500}{100} = \frac{100 t}{100} \quad \begin{array}{l} 500 \text{ extra you need} \\ \text{(interest)} \end{array}$$

$$5 = t$$

$$5 \text{ years}$$

$$19. \quad I = p \cdot r \cdot t$$

$$6,600 = 10,000 \cdot r \cdot 12$$

$$6,600 = 120,000 r$$

$$\frac{6,600}{120,000} = \frac{120,000 r}{120,000}$$

$$0.055 = r$$

$$5.5\% = r$$

$$\begin{array}{r} 16,600 \\ -10,000 \\ \hline 6,600 \text{ interest} \end{array}$$

LESSON **Problem Solving**
6-5 **Percent of Change**

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Write the correct answer.

1. In 1999, U.S. consumers spent about \$98 billion on new cars. In 2000, that amount increased by about 7%. How much did U.S. consumers spend on new cars in 2000 to the nearest billion dollars?
about \$105 Billion

2. In Union County, Florida, the 1990 census listed the population at 10,252. The 2000 census listed the population as 13,442. What percent increase is this to the nearest tenth of a percent?
31.1% increase

3. World production of motor vehicles increased from about 58 million in 1999 to 60 million in 2000. What was the percent increase to the nearest percent?
3%

4. Arthur's dog, Shep, used to weigh 158 pounds. The vet put him on a diet and he lost 13% of his weight. To the nearest pound, how much does Shep weigh now?
137 pounds

5. The number of volunteers rose from 47 on Monday to 64 on Tuesday. What is the percent increase to the nearest tenth of a percent?
36.2% increase

6. Coretta's bowling average decreased from 158 to 133. What is the percent decrease to the nearest tenth of a percent?
15.8% decrease

Choose the correct letter for the best answer.

7. Shandra scored 75 on her first math test. She scored 20% higher on her next math test. What did she score on the second test?
A 80 C 90
B 85 D 95

8. Jim's Gym had income of \$20,350 last month. The total increased by \$2,000 this month. What was the percent increase to the nearest percent?
F 11% H 7%
G 10% J 6%

9. Last year, the average number of absences in school was 8 students per day. This year, the absentee rate is down to 6 students per day. What is the percent decrease in student absences this year?
A 75% C 25%
B 33% D 66%

10. During the 1996–1997 ski season, snowboarding equipment had sales of \$125 million. Sales had increased 88% by the 2000–2001 season. What were sales of snowboarding equipment during 2000–2001?
F \$37 million H \$213 million
G \$110 million J \$235 million

Percent of Change

① $\$98 \text{ billion} \times 0.07 = 6.86 + 98 =$
Approx. $\$105 \text{ Billion}$

②
$$\begin{array}{r} 13,442 \\ -10,252 \\ \hline 3190 \end{array} \quad \frac{3190}{10,252} = 0.311 = 31.1\% \uparrow$$

③
$$\begin{array}{r} 60 \\ -58 \\ \hline 2 \end{array} \quad \frac{2}{58} = 0.034 = 3\%$$

④ $158 \times 0.13 = 20.54 \approx \text{approx. } 21 \text{ pounds}$
$$\begin{array}{r} 158 \\ -21 \\ \hline 137 \text{ pounds} \end{array}$$

⑤
$$\begin{array}{r} 64 \\ -47 \\ \hline 17 \end{array} \quad \frac{17}{47} = 36.2\% \uparrow$$

⑥
$$\begin{array}{r} 158 \\ -133 \\ \hline 25 \end{array} \quad \frac{25}{158} = 15.8\% \downarrow$$

$$\textcircled{7.} \quad 75 \times 0.2 = 15 \quad \begin{array}{r} 75 \\ + 15 \\ \hline 90 \end{array}$$

$$\textcircled{8.} \quad \frac{2,000}{20,350} = 0.98 \approx \text{approx } 10\%$$

$$\textcircled{9.} \quad \begin{array}{r} 8 \\ -6 \\ \hline 2 \end{array} \quad \frac{2}{8} = \frac{1}{4} = 25\% \downarrow$$

$$\textcircled{10.} \quad 125 \times 88\% = 110 \quad \begin{array}{r} 125 \\ + 110 \\ \hline \$235 \text{ million} \end{array}$$