MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Write the ratio in simplest form.

1) 16 to 20
   A) \( \frac{4}{5} \)    B) \( \frac{16}{20} \)    C) \( \frac{16}{5} \)    D) \( \frac{4}{20} \)

2) 700 pounds to 50 pounds
   A) \( \frac{14}{1} \)    B) \( \frac{13}{15} \)    C) \( \frac{13}{1} \)    D) \( \frac{15}{1} \)

Write the rate in simplest form.

3) 64 yards in 16 seconds
   A) \( \frac{4 \text{ second}}{1 \text{ yard}} \)    B) \( \frac{4 \text{ yards}}{1 \text{ second}} \)    C) \( \frac{64 \text{ yards}}{16 \text{ seconds}} \)    D) \( \frac{20 \text{ yards}}{5 \text{ seconds}} \)

4) 242 miles in 12 hours
   A) \( \frac{242 \text{ miles}}{6 \text{ hours}} \)    B) \( \frac{121 \text{ miles}}{12 \text{ hours}} \)    C) \( \frac{2 \text{ miles}}{12 \text{ hours}} \)    D) \( \frac{121 \text{ miles}}{6 \text{ hours}} \)

5) 413 employees for 49 companies
   A) \( \frac{49 \text{ employees}}{7 \text{ companies}} \)    B) \( \frac{413 \text{ employees}}{7 \text{ companies}} \)    C) \( \frac{59 \text{ employees}}{7 \text{ companies}} \)    D) \( \frac{59 \text{ employees}}{49 \text{ companies}} \)

Find the unit rate.

6) 1384 people in 40 buses
   A) 0.029 person/bus    B) 1344 people/bus    C) 34.6 person/bus    D) 346 people/bus

7) A \( \frac{3}{4} \)-lb package of salami costs $2.52. Round to the nearest hundredth of a dollar.
   A) $4.41 per lb    B) $3.36 per lb    C) $1.89 per lb    D) $2.52 per lb

Determine which is the better buy.

8) 7 pencils for $0.49 or 18 pencils at $1.62
   A) 7 pencils for $0.49    B) 18 pencils at $1.62

9) A package of 7 bars of soap for $3.50 or a package of 10 bars of soap for $3.70
   A) 7 bars of soap for $3.50    B) 10 bars of soap for $3.70
Solve. Simplify if possible.

10) Bob is 14 years old, and Susan is 4 years old. Find the ratio of Bob's age to Susan's.
   A) \( \frac{2}{7} \)  
   B) \( \frac{14}{4} \)  
   C) \( \frac{1}{2} \)  
   D) \( \frac{7}{2} \)

11) Tuition at a certain college recently increased from $8000 to $11,000. Find the ratio of the increase in price to the original price.
   A) \( \frac{3}{8} \)  
   B) \( \frac{8}{19} \)  
   C) \( \frac{3}{11} \)  
   D) \( \frac{8}{11} \)

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

Indicate whether the statement is true or false.

12) \( \frac{6}{100} = \frac{3}{50} \)

13) 6 is to 36 as 15 is to 88.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve.

14) \( \frac{x}{42} = \frac{9}{14} \)

15) \( \frac{1}{2} = \frac{x}{9} \)

16) \( \frac{8}{6} = \frac{24}{x} \)

Solve the problem.

17) On a map, the length of a nature-center trail is 11.7 centimeters. If the scale is 2 centimeters to 25 kilometers, what is the actual length of the trail?

18) Jim drove 212 miles in 4 hours. If he can keep the same pace, how long will it take him to drive 1378 miles?

19) A recipe for cookies calls for \( 7\frac{1}{2} \) cups of flour. If the recipe is for 2 dozen cookies, how much flour is needed for 18 dozen cookies?