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

Multiply and simplify.

1) \( \frac{8}{9} \cdot \frac{1}{8} \)
   A) \( \frac{8}{17} \)  
   B) \( \frac{9}{17} \)  
   C) \( \frac{8}{72} \)  
   D) \( \frac{1}{9} \)  
   1)

2) \( \frac{1}{14} \cdot \frac{7}{8} \)
   A) \( \frac{1}{16} \)  
   B) \( \frac{7}{15} \)  
   C) \( \frac{7}{64} \)  
   D) \( \frac{4}{11} \)  
   2)

3) \( \frac{6}{5} \cdot \frac{1}{8} \)
   A) \( \frac{3}{512} \)  
   B) \( \frac{3}{32} \)  
   C) 6  
   D) \( \frac{7}{16} \)  
   3)

4) \( \frac{17}{4} \cdot \left( \frac{-12}{11} \right) \)
   A) \( \frac{11}{12} \)  
   B) \( \frac{204}{44} \)  
   C) \( \frac{-51}{11} \)  
   D) \( \frac{-9}{15} \)  
   4)

5) \( \frac{11}{4} \cdot \frac{12}{11} \)
   A) \( \frac{23}{15} \)  
   B) \( \frac{132}{44} \)  
   C) 3  
   D) \( \frac{11}{12} \)  
   5)

6) \( \frac{15}{28} \cdot \left( \frac{-7}{3} \right) \)
   A) \( \frac{-105}{84} \)  
   B) \( \frac{-35}{12} \)  
   C) \( \frac{-11}{20} \)  
   D) \( \frac{5}{4} \)  
   6)

7) \( \frac{7}{16} \cdot \frac{8}{16} \)
   A) \( \frac{7}{32} \)  
   B) \( \frac{15}{32} \)  
   C) \( \frac{7}{4} \)  
   D) \( \frac{7}{8} \)  
   7)

8) \( \frac{5}{10} \cdot \frac{15}{170} \)
   A) \( \frac{3}{68} \)  
   B) \( \frac{1}{85} \)  
   C) \( \frac{75}{1700} \)  
   D) \( \frac{1}{9} \)  
   8)

9) \( \frac{-15}{20} \cdot \left( \frac{-4}{7} \right) \)
   A) \( \frac{15}{49} \)  
   B) \( \frac{60}{196} \)  
   C) \( \frac{-19}{196} \)  
   D) \( \frac{-19}{35} \)  
   9)

10) \( \left( \frac{-11}{10} \right) \cdot \left( \frac{10}{11} \right) \)
    A) 1  
    B) 0  
    C) \( \frac{100}{121} \)  
    D) \( \frac{121}{100} \)  
    10)

11) \( 5 \cdot \frac{1}{5} \)
    A) \( \frac{1}{25} \)  
    B) 1  
    C) 25  
    D) \( \frac{5}{25} \)  
    11)
12) \( 20 \cdot \frac{1}{4} \)

A) \( \frac{20}{80} \)  
B) \( \frac{1}{80} \)  
C) 5  
D) 80

13) \( 25 \cdot \left( -\frac{4}{5} \right) \)

A) \( -\frac{100}{5} \)  
B) \( -\frac{629}{120} \)  
C) -20  
D) -16

14) \( 9 \cdot \frac{3}{5} \)

A) 72  
B) \( \frac{27}{72} \)  
C) \( \frac{27}{5} \)  
D) \( \frac{3}{72} \)

15) \( \frac{5}{6} \cdot 27 \)

A) \( \frac{135}{162} \)  
B) \( \frac{5}{162} \)  
C) \( \frac{45}{2} \)  
D) \( \frac{135}{27} \)

16) \( \frac{1}{5} \cdot 150 \)

A) 3  
B) \( \frac{150}{5} \)  
C) 30  
D) \( \frac{150}{750} \)

17) \( \frac{3}{5} \cdot 300 \)

A) \( \frac{90003}{5} \)  
B) 180  
C) 150  
D) \( \frac{900}{5} \)

18) \( -63 \cdot \frac{2}{9} \)

A) \( -\frac{126}{9} \)  
B) \( -\frac{3971}{144} \)  
C) -14  
D) -12

19) \( -\frac{1}{9} \cdot 21 \)

A) \( -\frac{1}{189} \)  
B) \( \frac{21}{189} \)  
C) \( \frac{21}{21} \)  
D) \( \frac{7}{3} \)

20) \( \frac{2}{3} \cdot 90 \)

A) \( \frac{8102}{3} \)  
B) -80  
C) -60  
D) \( -\frac{180}{3} \)

Solve.

21) There are 33 students in Jose's class. \( \frac{2}{3} \) of the students are science majors. How many students are science majors?

A) 66 students  
B) 11 students  
C) 20 students  
D) 22 students

22) Tyler and his sister arranged a party for their father's birthday. The total cost of the party was $420. Tyler paid \( \frac{1}{4} \) of the total cost and his sister paid the remainder. How much did Tyler pay?

A) $105  
B) $120  
C) $125  
D) $115

23) When Maria finished medical school she owed $30,000 in student loans. She repaid \( \frac{4}{5} \) of the total amount within two years of graduating. How much did she repay within two years of graduating?

A) $2400  
B) $21,600  
C) $24,000  
D) $26,400
24) A warehouse stores 800 different inventory items. \( \frac{3}{10} \) of these items are perishable. How many of the inventory items are perishable?
   A) 237 items  B) 243 items  C) 80 items  D) 240 items

25) A restaurant has a capacity of 180 patrons. If the restaurant is \( \frac{9}{10} \) full, how many patrons are at the restaurant?
   A) 18 patrons  B) 153 patrons  C) 171 patrons  D) 162 patrons

26) A recipe calls for \( \frac{2}{5} \) cup of milk. How much milk should be used to make \( \frac{1}{6} \) of the recipe?
   A) \( \frac{1}{15} \) cup  B) \( \frac{3}{30} \) cup  C) \( \frac{1}{30} \) cup  D) \( \frac{2}{15} \) cup

27) On a map, 1 in. represents 180 miles. How much does \( \frac{1}{5} \) in. represent?
   A) 36 mi  B) 46 mi  C) 26 mi  D) 900 mi

28) A company has 25,200 employees. Of these, \( \frac{1}{3} \) drive alone to work, \( \frac{1}{5} \) car pool, \( \frac{1}{8} \) use public transportation, \( \frac{1}{10} \) cycle, and the remainder use other methods of transportation. How many employees use each method of transportation?
   A) Drive alone: 8500; car pool: 5040; public transportation: 3050; cycle: 2520; other: 1000
   B) Drive alone: 8400; car pool: 5040; public transportation: 3150; cycle: 2520; other: 2520
   C) Drive alone: 840; car pool: 5040; public transportation: 3150; cycle: 2520; other: 6090
   D) Drive alone: 8400; car pool: 5040; public transportation: 3150; cycle: 2520; other: 6090

29) The pitch of a screw is the distance between threads. With each complete rotation of the screw, it goes in or out a distance equal to its pitch. How far will a screw with a pitch of \( \frac{1}{18} \) in. go into a piece of wood when it is turned 10 complete rotations clockwise?
   A) \( \frac{1}{18} \) in.  B) \( \frac{1}{180} \) in.  C) \( \frac{5}{7} \) in.  D) \( \frac{9}{7} \) in.