

Name _____

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

Evaluate.

1) $\frac{1}{7} + \frac{1}{6}$ 1) _____
 A) $\frac{42}{13}$ B) $\frac{13}{42}$ C) $\frac{13}{21}$ D) $\frac{13}{84}$

2) $\frac{1}{4} \times \frac{1}{5} \times \frac{1}{6}$ 2) _____
 A) $\frac{15}{2}$ B) $\frac{1}{120}$ C) $\frac{1}{26}$ D) $\frac{1}{60}$

Carry out the indicated unit conversion. Round your answer, if appropriate.

3) Convert a distance of 54 feet into yards. 3) _____
 A) 36 yards B) 21 yards C) 162 yards D) 18 yards

4) A car is driving at 180 miles per hour. What is its speed in miles per minute? 4) _____
 A) 240 miles per minute B) 10,800 miles per minute
 C) 648,000 miles per minute D) 3 miles per minute

Use the following table of exchange rates to solve the problem. Round your answer when appropriate.

Currency	Dollars per Foreign	Foreign per Dollar
British pound	1.624	0.6158
Canadian dollar	1.005	0.9950
European euro	1.320	0.7576
Japanese yen	0.0120	83.33
Mexican peso	0.07855	12.73

5) Which is worth most, 1 British pound, 1 Canadian dollar, 1 European euro, or 1 dollar? 5) _____
 A) 1 British pound B) 1 dollar
 C) 1 Canadian dollar D) 1 European euro

6) How many Mexican pesos can you buy for \$180? 6) _____
 A) 2.16 pesos B) 14.139 pesos C) 2291.4 pesos D) 14,999.4 pesos

Decide which of the two given prices is the better deal.

7) You can buy hair product in a 12-ounce bottle for \$2.88 or in a 8-ounce bottle for \$1.76. 7) _____
 A) not enough information B) 8-ounce bottle for \$1.76
 C) equal value D) 12-ounce bottle for \$2.88

8) You can buy laundry product in a 30-ounce bottle for \$6.00 or in a 24-ounce bottle for \$4.08. 8) _____
 A) 30-ounce bottle for \$6.00 B) 24-ounce bottle for \$4.08
 C) equal value D) not enough information

Solve the problem.

- 9) Your electrical bill states that you used 870 kilowatt-hours of energy in September. Determine your average power use, in watts. 9) _____
A) 1208.3 watts B) 1329.2 watts C) 1450 watts D) 1169.4 watts

Solve the problem. Round your answer to the nearest tenth unless otherwise indicated.

- 10) Alex and Juana went on a 50-mile canoe trip with their class. On the first day they traveled 21 miles. What percent of the total distance was that? 10) _____
A) 0.42% B) 2% C) 200% D) 42%

Measurements are made at two different times. Find the absolute change and then find the percentage change. Round answers to the nearest tenth if necessary.

- 11) The value of Anna's house increased from \$160,000 when she bought it 20 years ago to \$1.38 million today. 11) _____
A) Absolute change: \$-1,220,000 B) Absolute change: \$1,220,000
Percentage change: 762.5% Percentage change: 76.3%
C) Absolute change: \$1,220,000 D) Absolute change: \$1,220,000
Percentage change: 88.4% Percentage change: 762.5%

Two measurements are given. Find the absolute difference and then find the relative difference as a percentage. Assume that the first quantity is the compared value and the second quantity is the reference value. Round answers to the nearest tenth if necessary.

- 12) In Jose's hometown, there are 243,000 people whose first language is English and 99,000 whose first language is Spanish. 12) _____
A) Absolute difference: 144,000 B) Absolute difference: -144,000
Relative difference: 145.5% Relative difference: -59.3%
C) Absolute difference: 144,000 D) Absolute difference: 144,000
Relative difference: 59.3% Relative difference: 14.5%

Use scientific notation to solve the problem.

- 13) The earth is approximately 92,900,000 miles from the sun. If 1 mile = 1.61×10^3 m, what is the distance to the sun in meters? 13) _____
A) 1.50×10^{10} m B) 1.50×10^{11} m C) 5.7×10^{10} m D) 5.7×10^{-10} m

Restate the fact as indicated.

- 14) Worldwide there are approximately 132 million births per year. Express this quantity in births per second. 14) _____
A) 63,300 births per second B) 251 births per second
C) 4.2 births per second D) 101 births per second

Write the percentage as a fraction or decimal, as indicated.

- 15) Write as a decimal. 15) _____
431%
A) 4.32 B) 43.1 C) 4.31 D) 0.431

Two measurements are given. Find the absolute difference and then find the relative difference as a percentage. Assume that the first quantity is the compared value and the second quantity is the reference value. Round answers to the nearest tenth if necessary.

- 16) The population density in country A is 113 people per square mile while in country B, it is 605 people per square mile. 16) _____
- A) Absolute difference: -492 people per square mile
Relative difference: -435.4%
 - B) Absolute difference: 492 people per square mile
Relative difference: 435.4%
 - C) Absolute difference: -492 people per square mile
Relative difference: -8.1%
 - D) Absolute difference: -492 people per square mile
Relative difference: -81.3%

Solve the problem.

- 17) The table below shows the number of people testing positive for a certain disease amongst those who do have the disease and amongst those who don't. Use the table to answer the question. 17) _____

	Test positive	Test negative	Total
Disease	108	12	120
No disease	1105	8775	9880
Total	1213	8787	10,000

What percentage of those that have the disease tested positive?

- A) 90%
- B) 12.1%
- C) 88.8%
- D) 8.9%

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

Give an appropriate response.

- 18) The following table shows the deaths due to the same disease in two cities. Compute the death rates in each city for those with health insurance, those without health insurance, and all residents. Explain the apparent inconsistency in these results. 18) _____

	City A		City B	
	Population	Deaths	Population	Deaths
Health Insurance	750,000	1800	20,000	42
No health insurance	25,000	120	14,000	49
Total	775,000	1920	34,000	91

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

Answer the question.

- 19) Suppose that a test for a disease correctly gives positive results for 95% of those having the disease and correctly gives negative results for 90% of those who don't have the disease. Suppose also that the incidence of the disease is 1%. If a person tests positive for the disease, what is the chance that they have the disease? Find the exact percentage. 19) _____
- A) 8.8%
 - B) 13.4%
 - C) 95%
 - D) 10%