

MIAMI DADE COLLEGE
INTERAMERICAN CAMPUS
DEPARTMENT OF MATHEMATICS
MAT 0020
STUDY GUIDE

RATIOS, PERCENTS, AND APLICATIONS

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

Simplify the ratio.

1) $\frac{21}{35}$

1) _____

A) $\frac{3}{7}$

B) $\frac{21}{35}$

C) $\frac{7}{5}$

D) $\frac{3}{5}$

2) $\frac{60}{105}$

2) _____

A) $\frac{4}{7}$

B) $\frac{4}{15}$

C) $\frac{15}{7}$

D) $\frac{60}{105}$

Find fractional notation for the ratio. You need not simplify.

3) A baseball team has played 9 games so far this season. The team won 5 games. Find the ratio of games lost to games won.

3) _____

A) $\frac{5}{9}$

B) $\frac{4}{5}$

C) $\frac{5}{4}$

D) $\frac{9}{5}$

Find the indicated rate.

4) Mara can type 2200 words in $\frac{2}{3}$ hour (40 minutes). How many words per minute can she type?

4) _____

A) 55 words/minute

B) 1467 words/minute

C) 83 words/minute

D) 37 words/minute

5) A machine can fill 2272 boxes of cereal in 0.4 hour. How many boxes of cereal can it fill per hour?

5) _____

A) 4544 boxes/hour

B) 5680 boxes/hour

C) 2272 boxes/hour

D) 909 boxes/hour

Determine if the following fractions can form a proportion.

6) $\frac{2}{3}$ and $\frac{12}{9}$

6) _____

A) No

B) Yes

7) $13\frac{1}{3}$ and $\frac{120}{72}$

7) _____

A) Yes

B) No

Solve.

8) $\frac{x}{34} = \frac{7}{17}$ 8) _____
A) $82\frac{4}{7}$ B) 28 C) $3\frac{1}{2}$ D) 14

9) $\frac{48}{120} = \frac{12}{x}$ 9) _____
A) $\frac{576}{120}$ B) 30 C) 1392 D) $\frac{1}{30}$

10) $\frac{m}{5.1} = \frac{1.44}{3.06}$ 10) _____
A) 5.7 B) 2.1 C) 5.1 D) 2.4

11) $\frac{1}{6} = \frac{n}{7\frac{1}{9}}$ 11) _____
A) $1\frac{5}{27}$ B) $42\frac{1}{9}$ C) $\frac{27}{32}$ D) $1\frac{1}{2}$

12) $\frac{2}{7} = \frac{10}{x+4}$ 12) _____
A) 33 B) $\frac{1}{10}$ C) 39 D) 31

13) $\frac{2x-6}{4} = \frac{6x+5}{5}$ 13) _____
A) $\frac{5}{7}$ B) $-\frac{5}{17}$ C) $\frac{25}{17}$ D) $-\frac{25}{7}$

14) $\frac{5}{8x-6} = \frac{4}{3x+2}$ 14) _____
A) 17 B) 2 C) $-\frac{14}{47}$ D) 34

Convert to Fractions.

15) 75% 15) _____
A) $\frac{3}{2}$ B) $\frac{15}{2}$ C) $\frac{3}{4}$ D) $\frac{3}{8}$

16) 9200% 16) _____
A) 920 B) 46 C) 184 D) 92

17) 0.7% 17) _____
A) $\frac{7}{100}$ B) $\frac{7}{500}$ C) $\frac{7}{2000}$ D) $\frac{7}{1000}$

18) $55\frac{5}{9}\%$

A) $\frac{10}{9}$

B) $\frac{50}{9}$

C) $\frac{5}{9}$

D) $\frac{5}{18}$

18) _____

Find decimal notation

19) 94.1%

A) .0941

B) 9.41

C) .831

D) .941

19) _____

20) .6%

A) .007

B) .06

C) .6

D) .006

20) _____

21) 72%

A) .072

B) 7.2

C) .72

D) .61

21) _____

Find percent notation.

22) .26

A) 260%

B) 2.6%

C) 26%

D) .026%

22) _____

23) .176

A) .0176%

B) 17.6%

C) .176%

D) 176%

23) _____

Find percent notation. Round your answer to the nearest tenth if necessary.

24) $\frac{18}{100}$

A) 0.18%

B) 1.8%

C) 180%

D) 18%

24) _____

25) $\frac{2}{11}$

A) 110%

B) 16.5%

C) 1.8%

D) 18.2%

25) _____

Solve the problem.

26) A pension fund invests \$90,600 in municipal bonds and earns 9% per year on the investment. How much money is earned per year?

A) \$100,667

B) \$81,540

C) \$8154

D) \$1,006,667

26) _____

27) An investment broker invests \$57,800 in utility stocks and earns 2% per year on the investment. How much money is earned per year?

A) \$1156

B) \$289,000

C) \$2,890,000

D) \$11,560

27) _____

28) The appliance store where the Scott family shops offers a 9% discount for paying cash. The Scott family received a discount of \$58. What was their total bill before the discount?

A) \$6

B) \$500

C) \$644

D) \$5

28) _____

Find the simple interest. Round your answer to the nearest cent.

29) Principal = \$300

Rate = 4%

Time in years = 7

A) \$8.40

B) \$171.43

C) \$84.00

D) \$10.71

29) _____

Solve the problem.

30) A camera costs \$990. If the sales tax rate is 8%, how much tax is charged and what is the total price? 30) _____

Round your answers to the nearest cent.

A) \$69.30, \$1059.30

B) \$89.10, \$1079.10

C) \$79.20, \$1069.20

D) \$792.00, \$1782.00