

Name: _____

Period: _____

Ratios, Proportions, Conversions and Percent Practice Test

1) Find the Irrational Number:

- (a) -155.23333...
- (b) 0.61661166611166661111...
- (c) 73.000252525...
- (d) $\frac{425}{578}$

2) Find the Rational Number:

- (a) $\sqrt{2}$
- (b) $\sqrt{81}$
- (c) $\sqrt{99}$
- (d) 0.121121112111...

Express the ratio **as a fraction** in lowest terms:

3) 4 : 12

4) $\frac{21}{49}$

5) $\frac{\frac{5}{8}}{\frac{1}{2}}$

Solve the proportions:

6) A cookie recipe for 60 cookies calls for 4 cups of flour. How much flour is needed to make 90 cookies?
_____ cup(s)

7) An object that weighs 10 lb on Earth would weigh 4 lb on Mars. If you weigh 95 lb on Earth, how much would you weigh on Mars?
_____ pounds

8) If there are 560 calories in 8 ounces of meat, how many calories are there in 3 ounces of meat?
_____ calories

Find the equivalent fraction, decimal or percent.

9) $\frac{2}{5} = \frac{\quad}{100} = \quad \%$

10) $\frac{6}{\quad} = \frac{\quad}{100} = \quad 2\%$

11) $\frac{\quad}{500} = \frac{15}{\quad} = \quad \%$

Complete the following conversions:

12) 3 hours 30 min = _____ min

13) 80 min = _____ hr _____ min

14) 3 yd = _____ ft

15) 4 yd = _____ in

16) 48 in = _____ ft

17) 48 in = _____ yd _____ ft

18) 2m = _____ cm

19) 8cm = _____ mm

20) 15km = _____ m

21) 20km = _____ mm

Complete the following problems:

22) 12% of 625

23) 2% of 800

24) 20 is what % of 40?

25) 50 is what % of 25?

26) What is 40% of 360?

27) 36 is 200% of what?

- 28) Joe got 22 out of 26 problems correct on the math test. What percent were correct? _____ %
- 29) A team won 13 games, lost 15 games, and tied 2 games. What percent of the games did the team win?
_____ %
- 30) A salesman keeps 20% of his sales as a commission. How much does he have to sell to earn \$1000?
\$_____
- 31) Because of improved technology, the time needed to manufacture an XYZ machine has fallen from 20 hours to 9 hours. Find the percent of decrease.
_____ %
- 32) A \$150 bicycle is on sale at a 20% discount. If there is a 5% sales tax, how much does the bicycle cost in all?
\$_____
- 33) Michael deposited \$3000 in a savings account that paid 6% simple interest. He made no deposits or withdrawals for 5 years. What was the value of the account at the end of 5 years?
\$_____
- 34) Ms. Claw borrowed \$13,000 at 12% for six years to buy a new car. This is a special loan that allows her to pay the entire amount due at the end of the loan. How much will she have to pay (simple interest) at the end of the six years?
\$_____
- 35) A colony of bacteria numbers 100. If the population grows at a rate of 50% per hour, compounded hourly, what will it be in 4 hours?

- 36) Mr. Mustard deposited \$800 at 12% compounded quarterly. What was the balance in the account at the end of one year?
\$_____

Vocabulary

rational number	A number that can be written as the quotient $\frac{a}{b}$ of two integers a and b where $b \neq 0$.		
terminating decimal	A fraction $\frac{a}{b}$ ($b \neq 0$) can be written in decimal form by using long division to divide a by b. If the division stops because a remainder is zero, then the decimal form of the fraction is a terminating decimal.		
repeating decimal	A fraction $\frac{a}{b}$ ($b \neq 0$) can be written in decimal form by using long division to divide a by b. If the division process does not stop, then it leads to a digit or a group of digits that repeats over and over. In this case, the decimal form of the fraction is a repeating decimal.		
cross products property	In a proportion, the cross products are equal. If $\frac{a}{b} = \frac{c}{d}$ where $b \neq 0$ and $d \neq 0$ then $ad=bc$.		
proportion	An equation that states that two ratios are equal. It has the form $\frac{a}{b} = \frac{c}{d}$		
cross products	The cross products of the proportion $\frac{a}{b} = \frac{c}{d}$ are ad and bc .		
scale	In a scale drawing, the scale gives the relationship between the drawing's measurements and the actual measurements.		
scale drawing	A diagram of an object in which the length and width are proportional to the actual length and width of the object.		
scale factor	The scale factor of two similar polygons or two similar solids is the ratio of corresponding linear measures such as side lengths or radii.		
percent	A comparison of a number to 100; per hundred.		
solving percent problems	$\frac{a}{b} = \frac{p}{100}$ a is p per cent of b. <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Unknown p (percent) a (part of base) b (base) </td> <td style="width: 50%; vertical-align: top;"> Question a is what percent of b? what is p percent of b? a is p percent of what? </td> </tr> </table>	Unknown p (percent) a (part of base) b (base)	Question a is what percent of b? what is p percent of b? a is p percent of what?
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discount	The difference between a regular price and a sale price.		
markup	The difference between the retail and wholesale prices of an item.		
percent of change	A measure of how much a quantity has increased or decreased relative to the original amount; a percent of increase or decrease.		
simple interest	Interest that is paid only on the principal; the product of the principal, the annual interest rate, and the time in years. $I = Prt$		
compound interest	Interest paid on the principal and previously earned interest.		