



## Pre-Algebra Summer Review

For students who have *completed* Math 6 and are **entering** Pre-Algebra

Reviewing key concepts from Math 6 is an excellent way to be fully prepared for the pace and rigor of Pre-Algebra. The following packet will help you practice and self-assess any concepts that you may want to spend extra time on before the start of school. **You should NOT use any type of calculator while doing these problems.**

You will take a low-stakes diagnostic quiz on this material to identify any gaps in critical concepts. You will be given additional assignments to help you learn the material until you can demonstrate mastery. If you would like additional resources to support your practice, we recommend Khan Academy as a great first step.

1) Evaluate using order of operations:

a.  $(61.8 \times 51.7) + 9.5$

b.  $20.11 - 13.27$

c.  $1.9 \times (10.6 - 2.17)$

d.  $36.4 + (9.2 - 4.9 \div 7)$

e.  $4.92 \div (0.8 - 0.12 \div 0.3)$

f.  $17.28 \div (1.32 - 0.24) \times 0.6$

2) Convert each fraction into a decimal:

a.  $\frac{17}{25}$

b.  $\frac{11}{25}$

c.  $4\frac{13}{20}$

d.  $7\frac{1}{8}$

3) Convert each decimal into a fraction or mixed number in simplest form:

a. 0.27

b. 0.055

c. 2.45

d.  $7.\bar{3}$

4) Write  $<$ ,  $>$ , or  $=$  in the circle.

a.  $0.64 \bigcirc \frac{7}{10}$

b.  $0.48 \bigcirc \frac{6}{15}$

c.  $7\frac{1}{8} \bigcirc 7.025$

5) Find the sum or difference:

a.  $\frac{12}{25} - \frac{4}{25}$

b.  $\frac{4}{7} - \frac{2}{5}$

c.  $5\frac{5}{12} + 3\frac{1}{7}$

d.  $3\frac{1}{5} - 1\frac{7}{8}$

6) Evaluate using order of operations. Write the answer in simplest form:

a.  $4 \times \frac{1}{8} \times \frac{3}{10}$

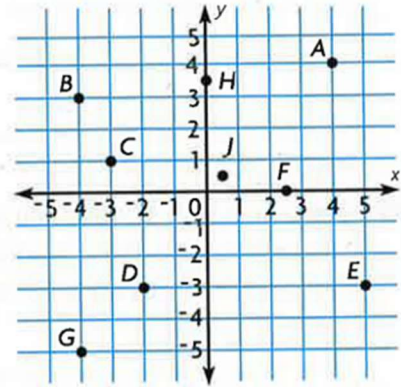
b.  $\frac{3}{5} + \frac{1}{10} \div 2$

c.  $1\frac{2}{5} \div 1\frac{13}{15} + \frac{5}{8}$

d.  $3\frac{1}{2} - 1\frac{5}{6} \div 1\frac{2}{9}$

7) Write the ordered pair for the point. Give approximate coordinates when necessary:

A	B	C
_____	_____	_____
D	E	F
_____	_____	_____
G	H	J
_____	_____	_____



8) Graph and label the point on the coordinate plane:

$M(-4, 0)$

$N(2, 2)$

$P(-3, 3)$

$Q(0, -2\frac{1}{2})$

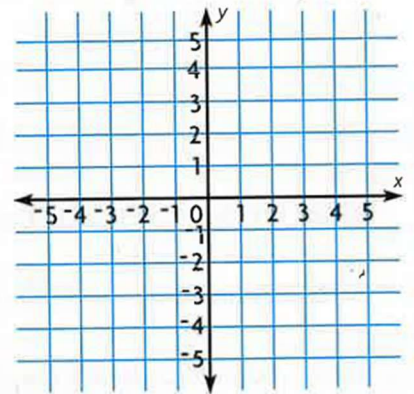
$R(0.5, 0.5)$

$S(-5, \frac{1}{2})$

$T(0, 0)$

$U(3\frac{1}{2}, 0)$

$V(-2, -4)$



9) Use equivalent ratios to find the unknown value:

a.  $\frac{3}{2} = \frac{12}{x}$

b.  $\frac{4}{5} = \frac{x}{40}$

c.  $\frac{x}{2} = \frac{45}{30}$

d.  $\frac{45}{x} = \frac{5}{6}$

10) Find the percent of the quantity:

a. 60% of 90

b. 55% of 600

c. 4% of 50

d. 105% of 260

11) Evaluate the expression for the given values of the variables:

a.  $17 - 2c$  for  $c = 7$

b.  $(h - 3)^2$  for  $c = 5$

c.  $d^2 - 9k + 3$  for  $d = 10$  and  $k = 9$

12) Use combining like terms and distributive property to simplify each expression:

a.  $7h - 3h$

b.  $2(9 + 5k)$

c.  $12 + 18n + 7 - 14n$

d.  $5(2h + 3) + 3h$

13) Determine where the given value of the variable is a solution of the equation:

a.  $c + 11 = 20$ ;  $c = 9$

b.  $9 = \frac{3}{4}e$ ;  $e = 12$

c.  $15.5 - y = 7.9$ ;  $y = 8.4$

14) Solve each equation:

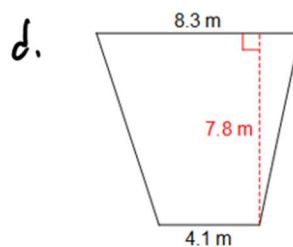
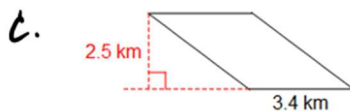
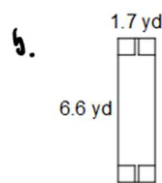
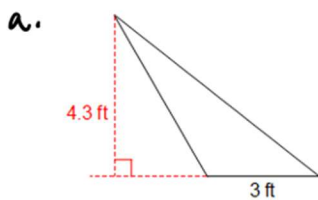
a.  $w - 13.7 = 22.8$

b.  $m - 2\frac{3}{4} = 6\frac{1}{2}$

c.  $8p = 96$

d.  $\frac{a}{14} = 6.8$

15) Find the area of each figure. Show all steps:



**Show all work on every story problem below:**

16) Josina plans to hike 6.3 kilometers to see a waterfall. She stops to rest after hiking 4.75 kilometers. How far does she have left to hike?

17) Elliot drove 202.8 miles and used 6.5 gallons of gasoline. How many miles did Elliot travel per gallon of gasoline?

18) A package of crackers weighing 8.2 ounces costs \$2.87. What is the cost per ounce of crackers?

19) Ebony spends \$67.44 when she buys 12 shirts. How much does each shirt cost?

20) Jenny buys 4.16 pounds of apples for \$5.20. How much does 1 pound cost?

21) A 3-ounce serving of tuna provides 21 grams of protein. Use equivalent ratios to find how many grams of protein are in 9 ounces of tuna.

22) There are 88 cookies on display at a bakery, and 25% of the cookies have chocolate chips. How many cookies have chocolate chips at the bakery display?

23) Seanna and her family are going to the grand opening of a new amusement park. There is a special price on tickets this weekend. Tickets cost \$56 each. This is 70% of the cost of a regular price ticket. What is the cost of a regular price ticket?

1) Evaluate using order of operations:

a.  $(61.8 \times 51.7) + 9.5$

$3,204.56$

b.  $20.11 - 13.27$

$6.84$

c.  $1.9 \times (10.6 - 2.17)$

$16.017$

d.  $36.4 + (9.2 - 4.9 \div 7)$

$44.9$

e.  $4.92 \div (0.8 - 0.12 \div 0.3)$

$12.3$

f.  $17.28 \div (1.32 - 0.24) \times 0.6$

$9.6$

2) Convert each fraction into a decimal:

a.  $\frac{17}{25} = 0.68$

b.  $\frac{11}{25} = 0.44$

c.  $4\frac{13}{20} = 4.65$

d.  $7\frac{1}{8} = 7.125$

3) Convert each decimal into a fraction or mixed number in simplest form:

a. 0.27

$\frac{27}{100}$

b. 0.055

$\frac{11}{200}$

c. 2.45

$2\frac{9}{20}$

d.  $7.\bar{3}$

$7\frac{1}{3}$

4) Write  $<$ ,  $>$ , or  $=$

a.  $0.64 < \frac{7}{10}$

b.  $0.48 > \frac{6}{15}$

c.  $7\frac{1}{8} > 7.025$

5) Find the sum or difference:

a.  $\frac{12}{25} - \frac{4}{25}$

$\frac{8}{25}$

b.  $\frac{4}{7} - \frac{2}{5}$

$\frac{6}{35}$

c.  $5\frac{5}{12} + 3\frac{1}{7}$

$8\frac{47}{84}$

d.  $3\frac{1}{5} - 1\frac{7}{8}$

$1\frac{13}{40}$

6) Evaluate using order of operations. Write the answer in simplest form:

a.  $4 \times \frac{1}{8} \times \frac{3}{10}$

$\frac{3}{20}$

b.  $\frac{3}{5} + \frac{1}{10} \div 2$

$\frac{13}{20}$

c.  $1\frac{2}{5} \div 1\frac{13}{15} + \frac{5}{8}$

$\frac{7}{8}$

d.  $3\frac{1}{2} - 1\frac{5}{6} \div 1\frac{2}{9}$

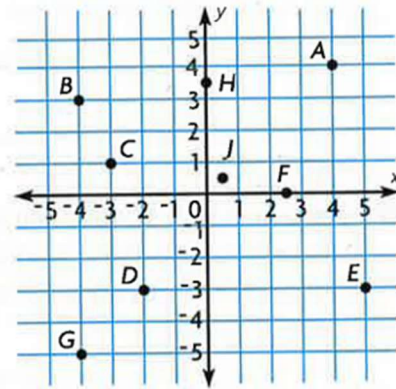
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7) Write the ordered pair for the point. Give approximate coordinates when necessary:

A  
(4, 4)

B  
(-4, 3)

C  
(-3, 1)



D  
(-2, -3)

E  
(5, -3)

F  
(2.5, 0)

G  
(-4, -5)

H  
(0, 3.5)

J  
(0.5, 0.5)

8) Graph and label the point on the coordinate plane:

M(-4, 0)

N(2, 2)

P(-3, 3)

Q(0, -2 $\frac{1}{2}$ )

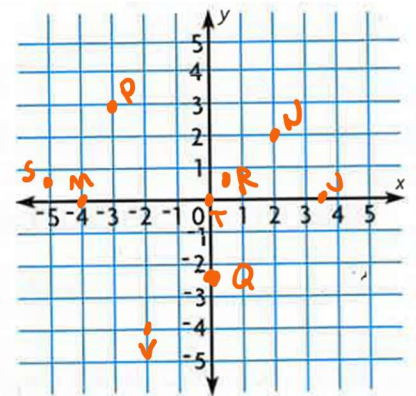
R(0.5, 0.5)

S(-5,  $\frac{1}{2}$ )

T(0, 0)

U(3 $\frac{1}{2}$ , 0)

V(-2, -4)



9) Use equivalent ratios to find the unknown value:

a.  $\frac{3}{2} = \frac{12}{x}$

$x = 8$

b.  $\frac{4}{5} = \frac{x}{40}$

$x = 32$

c.  $\frac{x}{2} = \frac{45}{30}$

$x = 3$

d.  $\frac{45}{x} = \frac{5}{6}$

$x = 54$

10) Find the percent of the quantity:

a. 60% of 90

54

b. 55% of 600

330

c. 4% of 50

2

d. 105% of 260

273

11) Evaluate the expression for the given values of the variables:

a.  $17 - 2c$  for  $c = 7$

3

b.  $(h - 3)^2$  for  $c = 5$

4

c.  $d^2 - 9k + 3$  for  $d = 10$  and  $k = 9$

22

12) Use combining like terms and distributive property to simplify each expression:

a.  $7h - 3h$

4h

b.  $2(9 + 5k)$

18 + 10k

c.  $12 + 18n + 7 - 14n$

19 + 4n

d.  $5(2h + 3) + 3h$

13h + 15

13) Determine where the given value of the variable is a solution of the equation:

a.  $c + 11 = 20$ ;  $c = 9$

$9 + 11 = 20$  yes  
 $20 = 20$

b.  $9 = \frac{3}{4}e$ ;  $e = 12$

$9 = \frac{3}{4}(12)$  yes  
 $9 = 9$

c.  $15.5 - y = 7.9$ ;  $y = 8.4$

$15.5 - 8.4 = 7.9$  no  
 $7.1 \neq 7.9$

14) Solve each equation:

a.  $w - 13.7 = 22.8$

$w = 36.5$

b.  $m - 2\frac{3}{4} = 6\frac{1}{2}$

$m = 9\frac{1}{4}$

c.  $8p = 96$

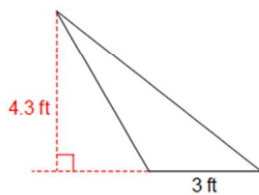
$p = 12$

d.  $\frac{a}{14} = 6.8$

$a = 95.2$

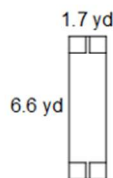
15) Find the area of each figure. Show all steps:

a.



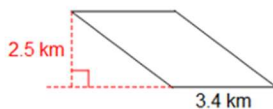
$A = 6.45 \text{ ft}^2$

b.



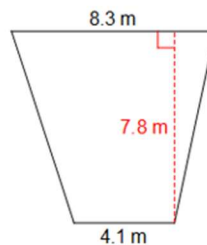
$A = 11.22 \text{ yd}^2$

c.



$A = 8.5 \text{ km}^2$

d.



$A = 48.36 \text{ m}^2$



Show all work on every story problem below:

16) Josina plans to hike 6.3 kilometers to see a waterfall. She stops to rest after hiking 4.75 kilometers. How far does she have left to hike?

1.55 km

17) Elliot drove 202.8 miles and used 6.5 gallons of gasoline. How many miles did Elliot travel per gallon of gasoline?

31.2 miles per gallon

18) A package of crackers weighing 8.2 ounces costs \$2.87. What is the cost per ounce of crackers?

\$0.35 per ounce

19) Ebony spends \$67.44 when she buys 12 shirts. How much does each shirt cost?

\$5.62 per shirt

20) Jenny buys 4.16 pounds of apples for \$5.20. How much does 1 pound cost?

\$1.25 per pound

21) A 3-ounce serving of tuna provides 21 grams of protein. Use equivalent ratios to find how many grams of protein are in 9 ounces of tuna.

$$\frac{3 \text{ oz}}{21 \text{ g}} = \frac{9 \text{ oz}}{x} \quad x = 63 \text{ grams}$$

22) There are 88 cookies on display at a bakery, and 25% of the cookies have chocolate chips. How many cookies have chocolate chips at the bakery display?

22 cookies

23) Seanna and her family are going to the grand opening of a new amusement park. There is a special price on tickets this weekend. Tickets cost \$56 each. This is 70% of the cost of a regular price ticket. What is the cost of a regular price ticket?

\$80