

2017 Summer Review Packet
For all students entering
Grade 6 Pre Algebra

This packet contains skills that are essential for success in all course work in grade 6 Pre Algebra. You are **required** to complete all examples and to neatly show all of your work. You may **NOT** use a calculator for any of this packet. If you have difficulty with a concept, you may use online resource such as: www.khanacademy.com or www.mathtv.com.

This packet is due the first week of school. As a class, we will review the topics from this packet, so you should make a note of any concepts that were difficult for you.



Good luck! Happy Summer to: _____

Operations with Fractions and Decimals: Write all in simplest form when necessary.

| | | |
|--|--|---------------------------------------|
| 1) $4.567 + 23.4556$ | 2) $15 - 9.875$ | 3) $245.32 - 197.83$ |
| 4) 5.4×2.1 | 5) $15.3 \times .078$ | 6) 44×5.02 |
| 7) $4.5 \div 9$ | 8) $3.045 \div 1.5$ | 9) $7.2 \div 0.06$ |
| 10) $\frac{1}{2} + \frac{3}{4}$ | 11) $1\frac{2}{3} + 3\frac{4}{5}$ | 12) $\frac{5}{6} - \frac{1}{4}$ |
| 13) $5\frac{1}{4} - 1\frac{2}{5}$ | 14) $\frac{1}{9} \times \frac{3}{5}$ | 15) $\frac{5}{8} \times \frac{7}{10}$ |
| 16) $2\frac{3}{4} \times 1\frac{1}{6}$ | 17) $\frac{55}{92} \times \frac{92}{55}$ | 18) $\frac{2}{3} \div \frac{4}{9}$ |

Simplify the following fractions completely. The first two have been done for you.

**Remember: To simplify a fraction, divide the numerator and denominator by their greatest common factor.

| | | |
|---|---|---------------------|
| 1) $\frac{2}{4}$ $\frac{2 \div 2}{4 \div 2} = \frac{1}{2}$ | 2) $\frac{6}{15}$ $\frac{6 \div 3}{15 \div 3} = \frac{2}{5}$ | 3) $\frac{4}{6}$ |
| 4) $\frac{3}{9}$ | 5) $\frac{8}{10}$ | 6) $\frac{7}{21}$ |
| 7) $\frac{11}{22}$ | 8) $\frac{5}{25}$ | 9) $\frac{8}{12}$ |
| 10) $\frac{8}{16}$ | 11) $\frac{2}{24}$ | 12) $\frac{13}{13}$ |

Convert the following fractions to decimals. Round to the nearest hundredth, when necessary.
The first one has been done for you.

| | | |
|---|--------------------|---------------------|
| 1) $\frac{2}{4}$ 0.5 $\begin{array}{r} 4 \overline{)2.0} \\ \underline{20} \\ 0 \end{array}$ | 2) $\frac{7}{10}$ | 3) $\frac{2}{3}$ |
| 4) $\frac{4}{15}$ | 5) $\frac{15}{40}$ | 6) $\frac{42}{100}$ |
| 7) $\frac{1}{4}$ | 8) $\frac{3}{5}$ | 9) $\frac{6}{10}$ |
| 10) $\frac{8}{16}$ | 11) $\frac{1}{3}$ | 24) $\frac{3}{3}$ |
| 12) $\frac{7}{10}$ | 13) $\frac{9}{10}$ | 14) $\frac{6}{5}$ |

Convert the following decimals to fractions. Simplify each fraction to lowest terms.

| | | |
|--|----------|---------|
| 1) 0.5 ↓ Tenths place = $\frac{5}{10}$ Then simplify to $\frac{1}{2}$ | 2) .75 | 3) .90 |
| 4) .20 | 5) 1.50 | 6) .33 |
| 7) .25 | 8) .4 | 9) .99 |
| 10) .8 | 11) .500 | 12) 2.5 |
| 13) .66 | 14) .125 | 15) .10 |

1) Replace each with the correct inequality symbol ($\leq, \geq, >, <$) to make the statement true.

$$-19 \quad \boxed{} \quad -14$$

$$16 \quad \boxed{} \quad -22$$

$$|-6| \quad \boxed{} \quad 4$$

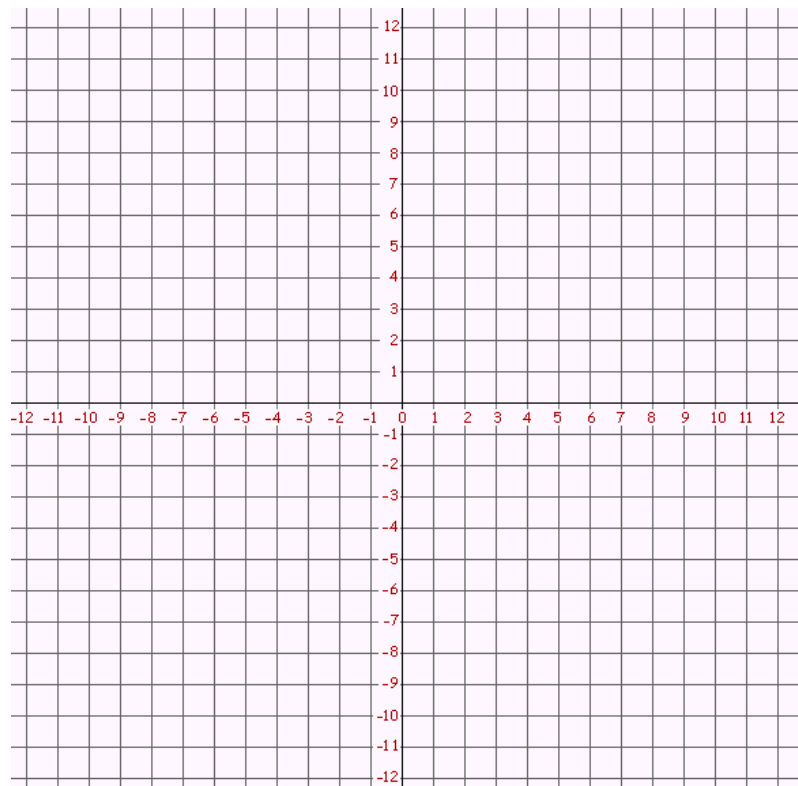
2) Arrange these lists of integers in order from largest to smallest

-5, 0, 12, -23, 5, 9, -19 _____

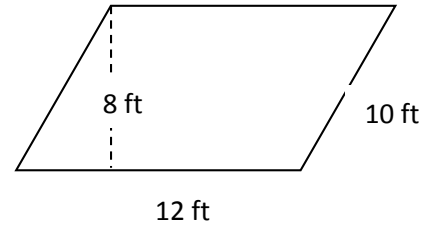
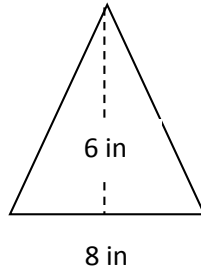
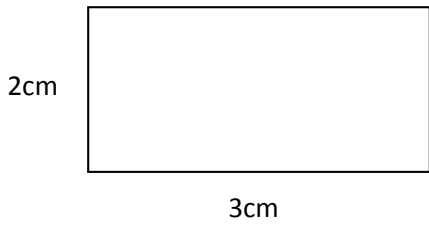
34, 2, 18, -23, -2, 8, 243 _____

3) Locate the following points on the graph below and connect them in order with straight line segments.

(X,Y) = (-9,-12) (-5,-3) (-11,3) (-3,3) (0,11) (3,3) (11,3) (5,-3) (9,-12) (0,-6) (-9,-12)



4) Find the area of each of the figures below.



Area = _____

Area = _____

Area = _____

5) Evaluate each of the following expressions

$$48 - 9 \cdot 3 + 4$$

$$9 - 16 \div 4 + 2(6 + 3)$$

$$3^4 - (6 + 2 \cdot 4) \div 7$$

6) In each of the following problems, solve for X. Show all of your work.

$$12 + x = 23$$

$$45 = x + 15$$

$$x - 12 = 84$$

$$13 = x - 12$$

$$4x = 36$$

$$49 = 7x$$

$$\frac{x}{8} = 4$$

$$15 = \frac{x}{5}$$

7) Sherri bought a package of pens that contained 15 pens. How many packages should she buy if she needs 240 pens?

8) A car traveled 325 miles in 5 hours. How far did the car travel in 1 hour?

9) Solve each of the following proportions

$$\frac{21}{x} = \frac{3}{8}$$

$$\frac{8}{12} = \frac{2}{x}$$

10.) What is 25% of 48?

11.) What is 20% of 800?

12.) What is 12% of 50?

- 13) Suzy bought a tee shirt that was on sale for 30% off. If the original price of the shirt is \$15, how much did Suzy pay for the shirt?
- 14) Billy's band has 64 members. Sixteen members of the band play the trumpet. What percent of the band plays the trumpet?
- 15) If Mr. Davis ate 20 of the 50 chocolate chip cookies from the bag, what percent of the bag of cookies did he eat?

16) Complete the following ratio tables.

| | | | | | |
|----|---|---|----|----|----|
| 3 | 6 | 9 | 12 | 15 | 18 |
| 11 | | | | | |

| | | | | | |
|---|----|--|----|--|----|
| 5 | | | 20 | | |
| | 16 | | | | 48 |

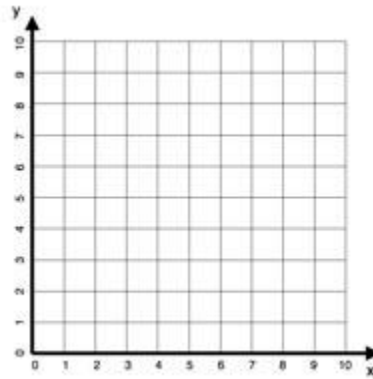
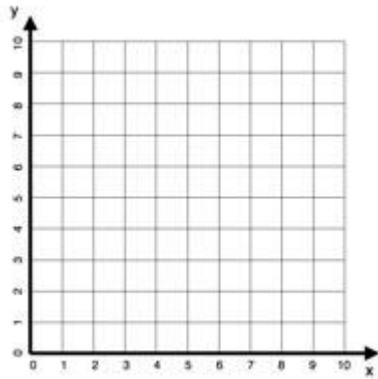
| | | | |
|-------|---|---|----|
| boys | 3 | 9 | |
| girls | 7 | | 42 |

| x Numerator | y Denominator |
|----------------|------------------|
| 4 | 6 |
| 8 | |
| 12 | 18 |
| | 24 |
| 20 | 30 |

17) Graph each of the following to determine if the relationship is proportional. Which graph(s), if any, is showing a proportional relationship?

| | | | | |
|------------|------|------|------|------|
| Oranges | 2 | 4 | 6 | 8 |
| Price (\$) | 0.50 | 1.00 | 1.50 | 2.00 |

| | | | | |
|--------------|-----|------|-----|---|
| Oats (cups) | 0.5 | 1 | 2 | 3 |
| Water (cups) | 1 | 1.75 | 3.5 | 5 |



18) Mama Luce is making her famous gravy. In the original recipe she needs to use $6\frac{1}{4}$ pounds of plum tomatoes and $1\frac{2}{3}$ cups of basil. If the original recipe makes enough gravy to feed 8 people and Mama wants to make sauce for 28 people, how many pounds of tomatoes and how many cups of basil does she need to purchase?

Find the mean, median and mode of the data below:

19) 3, 2, 3, 6, 7, 5, 9 mean: _____ median: _____ mode: _____

20) 17, 21, 30, 17, 28, 21 mean: _____ median: _____ mode: _____

21) A farmer builds a fence to enclose a rectangular pasture. He uses 155 feet of fence. Find the total area of the pasture if it is 45.5 feet long.

22) Write and solve an equation to find the width of the box if its volume is 80 cubic centimeters. Then find its surface area.

