

*IMMACULATE CONCEPTION HIGH SCHOOL
HONORS ALGEBRA I
SUMMER REVIEW*

This packet contains problems that we as a mathematics department feel you should know from previous math courses. It is important that you review these problems since they will appear throughout this course. We feel this will give you an advantage when beginning Honors Algebra I, and it will guide your teacher as to what you know and in what areas you may need extra help.

This packet must be completed prior to the beginning of the school year. It is recommended that you begin working on this review early August in order to better retain the material. Do your best on these problems, looking in old math books or old notes will help guide you. All work must be shown when working each problem. It is very important that you practice your basic skills without a calculator, so please avoid the use of one. We will spend the first couple of weeks of school going over these problems. You will be tested on this material, and you will not be allowed to use a calculator. Calculators will be used throughout the course as needed. All arithmetic must be done by hand.

6) Find each product or quotient, and write in lowest terms.

a) $\frac{25}{11} \cdot \frac{33}{10}$

b) $\frac{5}{4} \div \frac{25}{28}$

c) $4\frac{3}{8} \cdot 2\frac{4}{7}$

7) Find each sum or difference and write it in lowest terms.

a) $\frac{23}{45} + \frac{47}{75}$

b) $12\frac{5}{6} - 7\frac{7}{8}$

8) Add or subtract as indicated. No Calculator!

a) $45.83 + 20.923 + 5.7$

b) $689 - 79.832$

9) Multiply or divide as indicated.

a) $14.64 \times .16$

b) $429.2 \div .3$

10) Write each fraction as a decimal. For each repeating decimal, write the answers two ways: Using the bar notation and rounding to the nearest thousandth.

a) $9/16$

b) $151/200$

11) Convert each percent to a decimal and each decimal to a percent.

a) 27.5%

b) .0409

Part II: Real Numbers

1) Find the value of each exponential expression.

a) 3^3

b) $\left(\frac{2}{3}\right)^4$

2) Find the value of each expression.

a) $6^2 \div 3^2 - 4 \cdot 3 - 2 \cdot 5$

b) $19 - 3 [8(5 - 2) + 6]$

3) Write each word statement in symbols.

a) Seven equals thirteen minus six.

b) Seven is greater than the quotient of fifteen and five.

c) one more than three times a number.

d) 17 less than nine times a number.

4) Write each word sentence as an equation. Use x as the variable.

a) The sum of five times a number and two is 23. b) Ten divided by a number is two more than the number.

5) Find the value of each expression if $x = 2$ and $y = 4$

a) $9x - 3y + 2$

b) $\frac{3x}{4} - \frac{3y}{2}$

6) Decide whether the given number is a solution of the equation.

a) $6b + 2(b + 3) = 14$; 2

b) $\frac{4-x}{x+2} = \frac{7}{5}$; $\frac{1}{2}$

7) Identify as an expression or an equation.

a) $4x + 2y + 7$

b) $y^2 - 7y + 4 = 0$

c) $\frac{4-x}{5}$

8) Select the smaller number in each pair

a) -5.99 , -6.01

b) $-(-4)$, -4

c) $-2/5$; $-1/4$

9) Find the absolute value of a real number.

a) $-|49 - 39|$

b) $|-7.52 + 6.3|$

10) Find each sum.

a) $-20 + (-20)$

b) $-2\frac{3}{8} + \left(-3\frac{1}{4}\right)$

11) Find the difference. Remember No Calculator!

a) $8 - 5$

b) $7 - 10$

c) $4 - 4$

d) $-7 - (-14)$

e) $\frac{1}{10} - \frac{1}{2}$

12) Perform each operation.

a) $[3 - (-9)] - (-6)$

b) $\frac{2}{9} - \left[\frac{5}{6} - \left(-\frac{2}{3} \right) \right]$

13) Use the rules for order of operations with real numbers.

a) $-14 + 3 + [8 + (-13)]$

b) $\frac{3}{8} + \left[-\frac{2}{3} + \left(-\frac{7}{12} \right) \right]$

14) Find each product.

a) $12(-32)$

b) $(-14)(-22)$

c) $(-.42)(-3.4)$

15) Find each quotient.

a) $-\frac{3}{16} \div \frac{9}{8}$

b) $5.5 \div (-2.2)$

16) Perform the indicated operations.

a) $-x + [(-a + y) - 2x]$

b) $\frac{(-9+1)^2 - (-6)(-2)}{5(-5) + 3(4)}$

17) Evaluate the following expressions if $x = -3$, $y = 2$ and $a = 4$

a) $-4[(-2)(7) - 2]$

b) $(-4 + x)(-a) - |x|$

18) Use the distributive property to simplify each expressions.

a) $-(-4b - 8)$

b) $n(2a - 4b + 6c)$

c) $2(7x) + 2(8z)$

19) Simplify each expression.

a) $4(2x + 5) + 7$

b) $7(5n - 2) - (6 - 11)$

c) $7r - (2r + 4)$

Part III: Solving Equations

1) Solve each equation. All mathematical operations must be done by hand and shown by each problem.

a) $y - 4 = 16$

b) $p - \frac{2}{3} = \frac{5}{6}$

c) $5.7x + 12.8 = 4.7x$

d) $8x = 24$

e) $\frac{b}{5} = 4$

f) $\frac{6}{7}y = \frac{2}{3}$

g) $3w - 7w = 20$

h) $7t + 6 = 11t - 4$

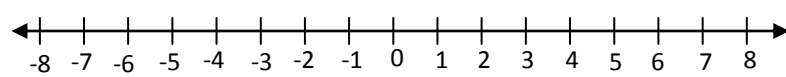
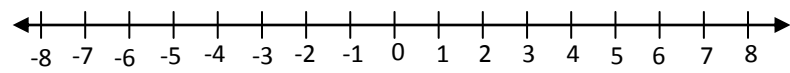
$$\text{i) } \frac{3}{8}y - \frac{1}{3}y = \frac{1}{12}$$

$$\text{j) } \frac{25}{3} = \frac{125}{x}$$

2) Solve and graph each inequality.

$$\text{a) } 4k > -16$$

$$\text{b) } -5t < -35$$



$$\text{c) } 5a + 3 \leq 6a$$

$$\text{d) } 6 + 3x \geq 4x + 4$$

