

Name _____ Date: _____ Class: _____

Rising 8th Grade Summer Practice: Review of 7th Grade Pre-Algebra

Directions: Using what you learned in 7th grade Pre-Algebra, solve each problem below. Show your work in the space provided and place your answer on the line. If you need more space to do your work, attach extra paper, but be sure to organize it! Read each question carefully!

UNIT 1: ALGEBRAIC EXPRESSIONS & PROPERTIES - No Calculators!!!

1. Use the order of operations to evaluate each of the following expressions.

a) $8(2 + 6) - 21 \div 3 =$ _____ b) $3[(9 + 12) \div 7] =$ _____ c) $(5+3) \div 2 + 2 =$ _____

d) $5(x + 4) + 3x =$ _____ e) $7[(19 + 6) - 2(13 - 7)] =$ _____ f) $3(23 + 42) =$ _____

g) $32 \div 3 + 22 \cdot 7 - 20 \div 5 =$ _____

2. Evaluate each algebraic expression for the given value(s) of the variable(s).

a) $u + 4v - w$ if $u = 12, w = 6$ & $v = 4$ _____

b) $3(c + 2y)$ if $c = 8$ and $y = 4$ _____

c) $y - x$ if $y = 4$ and $x = -3$ _____

d) $a^3 + x^2$ if $a = -2$ and $x = -3$ _____

e) $8n - (3p - 10m)$ if $n = 8, m = 3$ & $p = 15$ _____

3. Use the Distributive Property to simplify each algebraic expression below, combining like terms as needed.

a) $5(m - 7) =$ _____ b) $(t - 4)7 =$ _____ c) $2(x + 6) =$ _____ d) $(3x - 8)5 =$ _____

e) $8x - 4y + 3x + 2(y - 3) =$ _____ f) $2x^2 + 5(x^2 + x - 2) =$ _____

g) $\frac{-3}{4}(12 - 16d) =$ _____ h) $3a + 2c + 5a - 7(a - c) =$ _____

4. Translate each phrase below into an algebraic expression.

a) The quotient of three times a number and five _____

b) Twelve inches less than Kimi _____

c) The quotient of four times a number and seven _____

d) Seven more than a number _____

e) Two less than eight times a number _____

f) The sum of five times a number and ten _____

g) Four times a number decreased by one is -29 _____

5. A ticket service sells concert tickets over the telephone. A \$5 processing fee is added to the price of each ticket they sell.

a) Write an algebraic expression to represent the price of each ticket bought through the service.

b) Write an expression to represent the total price of four concert tickets if the ticket price is \$16.

c) Evaluate the expression from part b.

6. Name the property shown by each statement.

a) $7 \cdot (t+2) = (t+2) \cdot 7$ _____

b) $4 \cdot (12 \cdot r) = (4 \cdot 12) \cdot r$ _____

c) $d+0=d$ _____

d) $9 \cdot 1=9$ _____

UNIT 2: INTEGERS & ABSOLUTE VALUE – NO CALCULATORS!

7. Order each of the following from least to greatest:

a) $-1, 5, -3, 2$ _____ b) $-3, |-2|, 4, 0, -5$ _____

8. Order the following from greatest to least:

$0, -4, -2, 7$ _____

9. Compare the following integers. Write $<$, $>$, or $=$.

a.) -5 _____ -10 b.) 11 _____ -12 c.) $|-5|$ _____ 5

10. Evaluate each expression.

a) $|-13| =$ _____ b) $|21| =$ _____ c) $|-3| + |-5| =$ _____ d) $|9| + |-8| =$ _____

e) $|-13| + |15| =$ _____ f) $|21 - 18| =$ _____ g) $|-11| - |-5| =$ _____ h) $|4| - |-4| =$ _____

11. Evaluate each expression if $a = -6$, $b = 4$ & $c = 5$.

a) $|a| + 14 =$ _____ b) $|c - b| =$ _____ c) $b + |c| =$ _____

d) $|3b| =$ _____ e) $2|a| + c =$ _____ f) $|2b + c| =$ _____

12. Write an integer for each situation. Remember to label the integers!

a) 12°C above 0 _____

b) a loss of \$24 _____

c) a gain of 20 pounds _____

d) falling 6 feet _____

13. Add.

a) $9 + 16 =$ _____

b) $-10 + (-10) =$ _____

c) $-17 + 31 + (-14) + 26 =$ _____

d) $-23 + (-15) =$ _____

e) $-45 + 35 =$ _____

f) $39 + (-38) =$ _____

g) $-55 + 81 =$ _____

h) $-3 + 10 + (-6) =$ _____

i) $218 + 25 + (-218) =$ _____

j) $-13 + (-8) + (-12) =$ _____

k) $3 + (-10) + (-16) + 11 =$ _____

14. Evaluate each expression if $x = 4$ & $y = -3$.

a) $11 + y =$ _____

b) $x + (-6) =$ _____

c) $y + 2 =$ _____

d) $|x + y| =$ _____

e) $|x| + y =$ _____

f) $x + |y| =$ _____

g) $x + y =$ _____

h) $-5 + x + y =$ _____

15. Subtract.

a) $-3 - 4 =$ _____

b) $5 - (-2) =$ _____

c) $-15 - (-12) =$ _____

d) $-23 - (-28) =$ _____

e) $16 - 9 =$ _____

f) $65 - (-6) =$ _____

g) $-34 - (-46) =$ _____

h) $19 - |29| =$ _____

i) $0 - 12 =$ _____

j) $-20 - (-5) =$ _____

k) $19 - (-10) =$ _____

l) $13 - 18 =$ _____

16. Evaluate each expression if $m = -2$, $n = 10$ & $p = 5$.

a) $m - 6 =$ _____

b) $p - (-8) =$ _____

c) $m - n =$ _____

d) $9 - n =$ _____

e) $p - m =$ _____

f) $-25 - p =$ _____

g) $m - 8 =$ _____

h) $n - p =$ _____

i) $n - p - m =$ _____

j) $p - |m| =$ _____

17. Multiply.

a) $-5(8) =$ _____

b) $-3(-7) =$ _____

c) $10(-8) =$ _____

d) $(-4)^2 =$ _____

e) $-12(-12) =$ _____

f) $(-8)^2 =$ _____

g) $8(-8) =$ _____

h) $-(-4)^2 =$ _____

i) $12(8) =$ _____

j) $-6(3)(-5) =$ _____

18. Divide.

a) $33 \div (-3) =$ _____

b) $-25 \div 5 =$ _____

c) $48 \div 4 =$ _____

d) $-63 \div (-7) =$ _____

e) $-12 \div 4 =$ _____

f) $-14 \div (-7) =$ _____

g) $350 \div (-25) =$ _____

h) $-420 \div (-3) =$ _____

19. Use the order of operations to evaluate each expression.

- a) $-18 - (-16) =$ _____ b) $-4 + 12 + (-7) =$ _____ c) $5 - 7 - (-4) =$ _____
 d) $-42 \div 7 - (-16)(-4) =$ _____ e) $16 \div 8 + (-4)(-3) =$ _____ f) $24 \div (-8) \cdot (4) =$ _____

20. Simplify each expression.

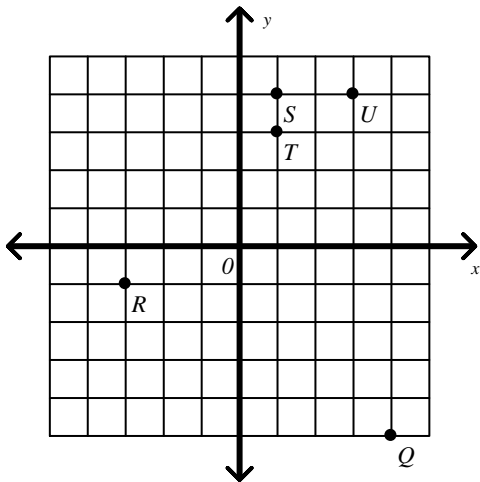
- a) $-5(7a) =$ _____ b) $3(-2x) =$ _____ c) $4(6f) =$ _____
 d) $7(6b) =$ _____ e) $-6(-3y) =$ _____ f) $7(-8g) =$ _____

21. Evaluate each expression if $a = -3, b = -4, c = 5, d = -24, \& f = 8$.

- a) $-2a =$ _____ b) $9b =$ _____ c) $ab =$ _____ d) $-3ac =$ _____
 e) $-2c^2 =$ _____ f) $abc =$ _____ g) $a(b + c) =$ _____ h) $12 \div b =$ _____
 i) $d \div b =$ _____ j) $b^2 \div f =$ _____ k) $b^2 - 5f =$ _____ l) $bf \div 2 =$ _____

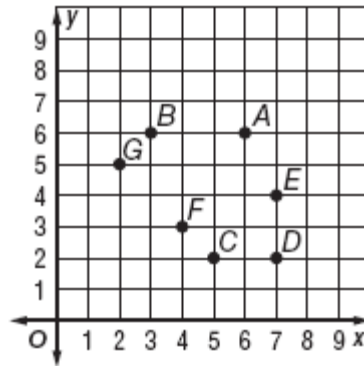
UNIT 3: COORDINATE PLANE

22. Using the points on the coordinate plane below, write the ordered pairs for each point.



- R _____ S _____
 T _____ U _____
 Q _____

23. Using the points on the coordinate plane below, answer the following questions:



- a) Name the point for the ordered pair (4, 3).

 b) Write the ordered pair that names point C.

 c) Name the point for the ordered pair (7, 4).

24. What is the range of the function $\{(3, 6), (4, 1), (6, 3), (1, 6)\}$?

Range: _____

25. Express the following relation as a table: $\{(7, 10), (10, 3), (9, 1), (6, 6)\}$.

26. **Determine whether the relation is a function.**
 $\{(5, 9), (4, 8), (-7, 4), (0, 4), (2, 4), (3, 9), (-3, 8)\}$

27. Find the domain and range of the relation $\{(7, 3), (2, 6), (1, 5), (4, 9)\}$.

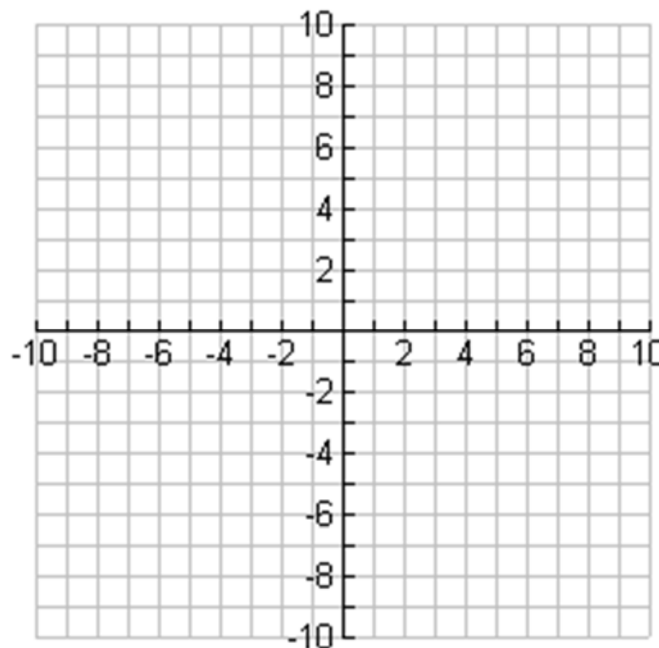
Domain: _____

Range: _____

28. Fill in the input/output table below completely.

x	$y = 2x + 3$ (Workspace)	y	Coordinate Pairs
0	$y = 2(0) + 3$	3	A(0,3)
1			B()
2			C()
-1			D()
-2			E()

29. Graph the points – including the example – from problem 31 on the coordinate plane below. Remember to label each point with the given letter. **DO NOT CONNECT THE POINTS!**



UNIT 4: RATIONAL NUMBERS – NO CALCULATORS!

30. Find each product. Write in simplest form.

a) $\frac{1}{2} \cdot \frac{3}{5} =$ _____
 b) $\frac{4}{5} \cdot \frac{5}{8} =$ _____
 c) $\frac{7}{9} \cdot \frac{11}{20} =$ _____
 d) $-4\frac{4}{5} \cdot 1\frac{1}{6} =$ _____
 e) $-2\frac{1}{8} \cdot (-4\frac{4}{7}) =$ _____
 f) $\frac{-8}{9} \cdot \frac{5}{16} =$ _____
 g) $\frac{2}{5} \cdot (-5) =$ _____
 h) $\frac{3}{10} \cdot (\frac{-1}{4}) =$ _____
 i) $1\frac{5}{7} \cdot 10\frac{1}{2} =$ _____
 j) $2\frac{4}{9} \cdot (-3\frac{6}{11}) =$ _____
 i) $(\frac{-8}{15}) \cdot (\frac{5}{7}) =$ _____
 j) $7\frac{1}{2} \cdot (2\frac{2}{3}) =$ _____

31. Find each quotient. Write in simplest form.

a) $\frac{5}{16} \div \frac{5}{8} =$ _____
 b) $\frac{7}{9} \div \frac{2}{3} =$ _____
 c) $\frac{16}{21} \div (\frac{-2}{7}) =$ _____
 d) $\frac{-4}{5} \div \frac{3}{10} =$ _____
 e) $1\frac{1}{4} \div (2\frac{3}{8}) =$ _____
 f) $-8\frac{4}{7} \div 2\frac{1}{7} =$ _____
 g) $\frac{18}{21} \div 3 =$ _____
 h) $-4\frac{5}{8} \div (-3\frac{1}{3}) =$ _____

32. Find each sum. Write in simplest form.

a) $\frac{11}{12} + \frac{9}{12} =$ _____
 b) $\frac{13}{15} + \frac{9}{15} =$ _____
 c) $\frac{4}{9} + \frac{8}{9} =$ _____
 d) $\frac{4}{20} + \frac{-9}{20} =$ _____
 e) $7\frac{3}{4} + 3\frac{1}{4} =$ _____
 f) $-6\frac{7}{12} + (-8\frac{11}{12}) =$ _____
 g) $-4\frac{9}{14} + 3\frac{5}{14} =$ _____
 h) $2\frac{3}{5} + (-\frac{1}{5}) =$ _____

33. Find each sum or difference. Write in simplest form.

a) $\frac{19}{20} - \frac{17}{20} =$ _____
 b) $\frac{23}{25} - \frac{8}{25} =$ _____
 c) $\frac{5}{9} - \frac{2}{9} =$ _____
 d) $\frac{3}{7} - \frac{5}{7} =$ _____
 e) $\frac{4}{12} - \frac{7}{12} =$ _____
 f) $\frac{14}{15} - \frac{9}{15} =$ _____
 g) $\frac{4c}{8} + \frac{2c}{8} =$ _____
 h) $\frac{8x}{21} - \frac{11x}{21} =$ _____

34. Find each sum. Write in simplest form.

a) $\frac{8}{9} + \frac{2}{5} =$ _____
 b) $\frac{1}{4} + (\frac{-2}{3}) =$ _____
 c) $\frac{7}{8} + \frac{1}{4} =$ _____
 d) $\frac{1}{6} + (\frac{-3}{4}) =$ _____
 e) $\frac{-7}{12} + (\frac{-3}{5}) =$ _____
 f) $\frac{-1}{3} + \frac{5}{7} =$ _____
 g) $6\frac{7}{10} + (\frac{-2}{3}) =$ _____
 h) $-2\frac{1}{8} + (\frac{-3}{4}) =$ _____
 i) $-6\frac{2}{7} + \frac{2}{5} =$ _____
 j) $3\frac{1}{5} + 2\frac{3}{4} =$ _____
 k) $7\frac{5}{6} + (-3\frac{1}{3}) =$ _____

35. Find each difference. Write in simplest form.

a) $\frac{7}{15} - \frac{3}{10} =$ _____
 b) $\frac{-6}{11} - \frac{6}{11} =$ _____
 c) $\frac{13}{15} - \frac{2}{5} =$ _____
 d) $\frac{3}{8} - \frac{1}{12} =$ _____
 e) $-6\frac{3}{5} - (-2\frac{1}{4}) =$ _____
 f) $\frac{5}{12} - (\frac{-3}{8}) =$ _____
 g) $5\frac{8}{9} - (-2\frac{1}{3}) =$ _____
 h) $\frac{-2}{5} - \frac{6}{8} =$ _____
 i) $5\frac{1}{10} - 3\frac{2}{3} =$ _____
 j) $4\frac{3}{10} - (-2\frac{4}{5}) =$ _____
 k) $4\frac{1}{6} - 3\frac{1}{8} =$ _____

36. Evaluate each expression if $a = 6\frac{7}{20}$, $b = 3\frac{11}{20}$ & $c = 5\frac{3}{20}$.

- a) $a - b =$ _____ b) $b - a =$ _____ c) $c - a =$ _____ d) $b - c =$ _____
 e) $b + a - c =$ _____ f) $a + c - b =$ _____ g) $a - (b + c) =$ _____ h) $b - (c + a) =$ _____

37. Find each quotient. Write in simplest form.

- a) $\frac{2x}{y} \div \frac{3}{y} =$ _____ b) $\frac{4ab}{3c} \div \frac{6b}{4c} =$ _____ c) $\frac{8g}{3hi} \div \frac{4g}{15i} =$ _____ d) $\frac{4a}{b} \div \frac{2ac}{b} =$ _____
 e) $\frac{m}{9} \div \frac{mn^2}{3} =$ _____ f) $\frac{15yz}{6x} \div \frac{10z}{3x} =$ _____ g) $\frac{16de^2}{13f} \div \frac{12d}{26f} =$ _____ h) $\frac{2st}{q} \div \frac{4t}{q} =$ _____

38. Evaluate each expression if $x = \frac{7}{10}$, $y = -4\frac{2}{5}$ & $z = \frac{-4}{7}$.

- a) $xy =$ _____ b) $yz =$ _____ c) $xyz =$ _____ d) $5y =$ _____
 e) $-5xy =$ _____ f) $\frac{1}{2}y =$ _____ g) $(2\frac{3}{10})z =$ _____ h) $\frac{-2}{3}x =$ _____
 i) $x \cdot x =$ _____ j) $28z =$ _____ k) $-y =$ _____ l) $y \cdot y =$ _____
 m) $(5\frac{5}{6})xz =$ _____ n) $\frac{2}{5}(-x) =$ _____ o) $\frac{9}{10}y =$ _____ p) $\frac{2}{3}xy =$ _____

UNIT 5: EQUATIONS & INEQUALITIES

For the equations, solve and check your solutions. For the inequalities, solve & graph the solution on the number line when provided.

<p>39.</p> $-7 = \frac{y}{-7}$ <p>_____</p>	<p>40.</p> $17 + z = 20$ <p>_____</p>
<p>41.</p> $-2x + 14 = -2$ <p>_____</p>	<p>42.</p> $0.2x + 5 = 7$ <p>_____</p>
<p>43.</p> $\frac{x}{4} + 19 = -8$ <p>_____</p>	<p>44.</p> $\frac{1}{3}y - 6 = 3$ <p>_____</p>

45.

$$\frac{n}{4} - 2 = 10$$

46.

$$-68 = -10y - 18$$

47.

$$54 = -2(m + 3) + m$$

48.

$$\frac{x}{42} = \frac{6}{7}$$

49.

$$48 - x = 23$$

50.

$$\frac{3}{4}(4x + 12) = 15$$

51.

$$3x + 7 = 2x - 1$$

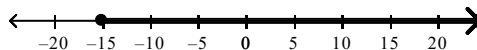
52.

$$x - 2 = 14 + 6$$

53.

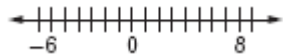
$$2(n + 7) = 4 - 2(n - 5)$$

54. Write the inequality for the graph:



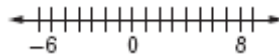
55.

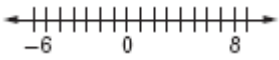
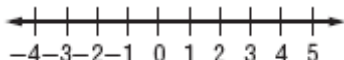
$$3m - 6 \leq 6$$



56.

$$5x - 5 > 10$$



<p>57. $-x - 3x \leq 24$</p>  <p>_____</p>	<p>58. $6.7 \geq -0.2x + 4.5$</p>  <p>_____</p>
<p>15. Translate the sentence into a formula: The distance the plane traveled is the rate it was traveling multiplied by the time it was flying.</p> <p>_____</p>	<p>60. Uma wants to buy a video game system for \$360. She has \$80 and is saving \$20 each week. Solve the equation $20w + 80 = 360$ to find how many weeks w it will take Uma to save enough to buy the system.</p> <p>solution _____</p>
<p>61. Translate the sentence into an equation. Then solve. The sum of six, and a number divided by two is eight.</p> <p>equation _____</p> <p>solution _____</p>	<p>62. Translate the sentence into an equation. Then solve. Five is the difference of 27 and a number.</p> <p>equation _____</p> <p>solution _____</p>
<p>63. Translate the sentence into an equation. Then solve. Toshi and Ben grabbed a total of twenty-three rebounds in their last basketball game. If Toshi grabbed seven more rebounds than Ben, how many rebounds did Toshi grab?</p> <p>equation _____</p> <p>solution _____</p>	<p>64. Translate the sentence into an equation. Then solve. The difference between five times a number and six is -46.</p> <p>equation _____</p> <p>solution _____</p>

UNIT 6: EXPONENTS & SCIENTIFIC NOTATION

<p>65. Which of these numbers is NOT divisible by 2, 3, 4, 5, 6, 8, and 9?</p> <p>a) 4,222,368 b) 6,665,400 c) 1,273,320 d) 767,880</p> <p>_____</p>	<p>66. Tell which expression is a monomial.</p> <p>a) $\frac{6}{gh}$ b) $4(n - m)$ c) $-1(a - b)$ d) $22ef$</p> <p>_____</p>
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<p>67. Find the GCF: 14, 20 and 28</p> <p>= _____</p>	<p>68. Find the GCF: 8, 10, and 15</p> <p>= _____</p>
<p>69. Find the LCM of 24 and 20.</p> <p>_____</p>	<p>70. Tell which number is prime: 4, 29, 35, 58.</p> <p>_____</p>
<p>71. List all of the factors of 54.</p> <p>_____</p>	<p>72. Write the following expression in simplified exponential form: $(5ab)(2abc)(-3bc)(c)$</p> <p>= _____</p>
<p>73. Write the prime factorization of 160. Use exponents where possible.</p> <p>= _____</p>	<p>74. Factor the monomial: $16j^2k$</p> <p>= _____</p>
<p>75. Simplify: $5^2 \cdot (5 - 6^2)$</p> <p>_____</p>	<p>76. Evaluate $(c - b)^2 + a^2$ for $a = -5$, $b = -2$, and $c = -4$.</p> <p>_____</p>
<p>77. Evaluate $4(2b + 1)^1$ if $b = 3$.</p> <p>_____</p>	<p>78. Write using exponents: $(x)(x)(x)(x)(y)(y)$</p> <p>= _____</p>
<p>79. Simplify the expression. Express using exponents. $5^3 \cdot 5^8$</p> <p>= _____</p>	<p>80. Write using exponents $-3 \cdot m \cdot 4 \cdot n \cdot n$</p> <p>= _____</p>
<p>81. Simplify the expression: $(-11z)^0$</p> <p>= _____</p>	<p>82. Simplify: $(2^2)^3$</p> <p>= _____</p>

<p>82. Write the expression using a single exponent:</p> $((8^5)^3)^6$ <p>= _____</p>	<p>83. Simplify:</p> $(b^4)^6 \cdot (b^2)^4$ <p>= _____</p>
<p>84. Simplify the expression:</p> $(3a^5b^4)^3$ <p>= _____</p>	<p>85. Simplify the expression:</p> $(x^3 \cdot x)^4$ <p>= _____</p>
<p>86. Simplify the expression:</p> $(5a^7)^3$ <p>= _____</p>	<p>87. Write the expression without the fraction bar:</p> $\frac{y^5}{y^7}$ <p>= _____</p>
<p>88. Simplify:</p> $\frac{4^3x^4}{4x^2}$ <p>= _____</p>	<p>89. Simplify:</p> $\frac{6^2}{6^4}$ <p>= _____</p>
<p>90. Compare. Use <, >, or = to complete the statement.</p> $25^2 \text{ _____ } (5^2)^2$	<p>91. Write <, >, or = to complete the statement.</p> $(2 \cdot 3^2)^6 \text{ _____ } 18^6$
<p>92. A 89-year-old person is 7.7964×10^5 hours old. Write this number in standard form.</p> <p>_____</p>	<p>93. Multiply $(1.9 \times 10^7)(3 \times 10^6)$. Express the result in scientific notation.</p> <p>= _____</p>

94. A hydrogen atom has a mass of 1.67×10^{-27} kg. Find the mass of 7.1×10^3 hydrogen atoms. Express the result in scientific notation. Show your work.

= _____

95. The table shows the populations of the world's most populous countries. Rank the **countries** in order from most populous to least populous.

2003 Population	
Country	Population
USA	2.90342554×10^8
China	1.286975468×10^9
India	1.049700118×10^9

Source:
<http://www.factmonster.com/ipka/A0004391.html>

96. The table shows the melting point in degrees Kelvin (K) for four different elements. Rank **the elements** in order showing the lowest melting point to the highest.

Melting Points	
Element	Melting Point
Gold	1.33758×10^3 K
Silver	1.2351×10^3 K
Iron	1.808×10^3 K
Aluminum	9.335×10^2 K

Source:
<http://www.factmonster.com/periodictable.php>

97. The table shows the height in feet of five of the world's tallest buildings. Rank **the buildings** in order from tallest to shortest.

Height of Buildings	
Building	Height
Sears Tower	1.45×10^3 ft
Jin Mao Building	1.381×10^3 ft
Eiffel Tower	9.84×10^2 ft
Empire State Building	1.25×10^3 ft
Petronas Towers	1.483×10^3 ft

Source:
<http://www.infoplease.com/ipa/A0001338.html>

UNIT 13: RATIOS & PROPORTIONS

98. Determine which pair of ratios **CANNOT** form a proportion.

a) $\frac{2}{7}, \frac{4}{14}$ b) $\frac{2}{7}, \frac{4}{21}$ c) $\frac{20}{70}, \frac{2}{7}$ d) $\frac{2}{7}, \frac{6}{21}$

99. Determine which pair of ratios **can** form a proportion.

a) $\frac{3}{5}, \frac{18}{45}$ b) $\frac{3}{5}, \frac{27}{35}$ c) $\frac{3}{5}, \frac{21}{35}$ d) $\frac{3}{5}, \frac{24}{30}$

<p>100. Lorreen sells 18 adult tickets, 35 student tickets, and 2 discount tickets for the school play. Write the ratio discount tickets to adult tickets in three ways.</p> <p>_____</p>	<p>101. Write the ratio 28: 4 in simplest form.</p> <p>_____</p>
<p>102. In a sports equipment locker, there are 54 balls and 24 baseball mitts. Write the ratio of balls to baseball mitts in simplest form.</p> <p>_____</p>	<p>103. Solve the proportion:</p> $\frac{56}{105} = \frac{8}{p}$ <p>p= _____</p>
<p>104. Find the unit rate for the situation: \$5.20 for 8 cans</p> <p>_____</p>	<p>105. Find the unit rate for the situation: 336 km in 8 hr</p> <p>_____</p>
<p>106. At an average rate of 35 miles an hour, how far can you travel in 9 hours?</p> <p>_____</p>	<p>107. Find the value that completes the proportion:</p> $\frac{5}{8} = \frac{f}{72}$ <p>_____</p>
<p>108. Find the value that completes the proportion:</p> $\frac{36}{g} = \frac{15}{20}$ <p>_____</p>	<p>109. A car travels 106 miles using 7 gallons of gas. At that rate, how far can the car travel using 14 gallons of gas?</p> <p>_____</p>
<p>110. Solve the proportion:</p> $\frac{19}{12} = \frac{f}{9}$ <p>_____</p>	<p>111. Solve the proportion:</p> $\frac{10 \text{ mi}}{13 \text{ min}} = \frac{x \text{ mi}}{104 \text{ min}}$ <p>_____</p>
<p>112. While picking thirty apples, Mia noticed that six apples had worm holes and had to be thrown away. What is the ratio of good apples picked to bad apples picked?</p> <p>_____</p>	<p>113. A truck needs 11 gallons of fuel to travel 132 miles. Can the truck travel 72 miles with 6 gallons of fuel?</p> <p>_____</p>

UNIT 15: PERCENTS

<p>114. Express the percent as a fraction or mixed number in simplest form, or vice-versa. Round to the nearest tenth percent, if necessary.</p> <p>a) 0.8% = _____</p> <p>b) $\frac{13}{17}$ = _____</p>	<p>115. Express each percent as a decimal.</p> <p>a) 54% = _____</p> <p>b) 2.4% = _____</p>
<p>116. Express each decimal as a percent.</p> <p>a) 0.5 = _____</p> <p>b) 0.019 = _____</p>	<p>117. Write and solve a proportion to find the given percent of the number. <i>195% of 181</i></p> <p>proportion = _____</p> <p>solution = _____</p>
<p>118. Write and solve a proportion to find the given percent of the number. <i>28 is 35% of what number?</i></p> <p>proportion = _____</p> <p>solution = _____</p>	<p>119. Write and solve a proportion to find the given percent of the number. <i>14 is what percent of 175?</i></p> <p>proportion = _____</p> <p>solution = _____</p>
<p>120. Write and solve a proportion to find the given percent of the number. <i>What is 0.5% of 840?</i></p> <p>proportion = _____</p> <p>solution = _____</p>	<p>121. Write and solve a proportion to find the given percent of the number. <i>What percent of 30 is 18?</i></p> <p>proportion = _____</p> <p>solution = _____</p>
<p>122. While walking outside on a field trip 65%, or 13, of the students in the class wore jackets. Find the number of students in the entire class.</p> <p>_____</p>	<p>123. In a survey of college students, 34% said that they preferred to take 8:00 A.M. classes. Out of 2,000 college students, how many would you expect to prefer 8:00 A.M. classes?</p> <p>solution: _____</p>

Name _____ Date _____ Rising 8th Grade – Summer 2023

2023 Summer Math Assignment: Rising 8th Grade Students HSPT Practice

This summer, rising 8th grade students should do the following problem sets from **Barron's Strategies and Practice for the HSPT**. Each student was given a copy of the book either in class or at the Rising 8th Grade Parent meeting.

TOPIC	PAGE(S)	PROBLEMS	DATE COMPLETED
Quantitative Skills (Chapter 5)			
Sequences Practice	p. 109	#1-10	
Comparisons Practice	p. 125-126	#1-10	
Computations Practice	p. 130	#1-30	
Subtest	p. 135-140	#61-112	
Mathematics (Chapter 7)			
Basic Practice	p. 186-187	#1-10	
Fractions, Decimals, Percents & Ratios Practice	p. 195-197	#1-27	
Conversions & Properties Practice	p. 201-202	#1-16	
Geometry Practice	p. 210-212	#1-24	
Word Problem Practice	p. 215	#1-8	
Exponents, Radicals & Algebra Practice	p. 221-222	#1-19	
Linear Equations & Coordinate Geometry Practice	p. 224	#1-2	
Statistics & Probability Practice	p. 228-229	#1-11	
Subtest	p. 241-246	#175-238	

As you complete a problem set, mark down the date. If you work on 1-2 sets each week over the summer, you should be able to complete all 13 sets by the time school starts in September.

KEEP YOUR WORK NEAT AND ORGANIZED. IT WILL BE BROUGHT INTO SCHOOL TO HAND IN FOR A GRADE IN SEPTEMBER!