Name_____ 7th Grade Teacher:_____

Summer 2018

7th into 8th GRADE SUMMER REVIEW: MATH

The following packet will help you prepare for 8th grade math by reviewing the concepts you studied during 7th grade. If you need help to complete a problem the following websites are useful by searching the topic listed above the question.

http://www.virtualnerd.com/middle-math/all

http://www.purplemath.com/modules/index.htm

www.khanacademy.com

1. Summer Packets will be graded on completion and all work must be shown for full credit and is considered a Supportive Assignment.

2. This packet is due the first day of school August 29, 2018.

3. The purpose of this assignment is to reinforce concepts taught in 7th grade and prepare students to expand and build on previous knowledge.

If you have any questions, feel free to contact either Mrs. Shaffer at jshaffer@wtps.org (OVMS) ; Mrs. Westerby at mwesterby@wtps.org (BHMS) or Ms. Doyon at ddoyon@wtps.org (CRMS) or the math supervisor Mrs. English at cenglish@wtp.org

We are looking forward to a great school year.
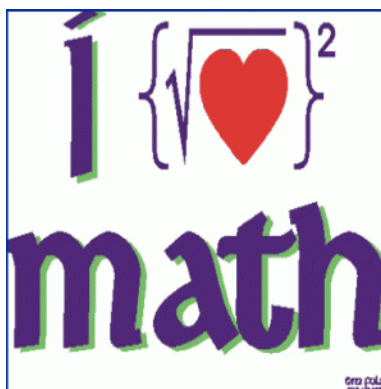
TOPICS

- ADDING INTEGERS- add integers with the same sign and subtract integers with different signs

    - Example: -2 + -4 = -6 and 5 + (-2) = 3

- SUBTRACTING INTEGERS- add its opposite

    - Example: 5 – (-3) = 8 and -6 – (-3) = -3

- MULTIPLYING/DIVIDING INTEGERS- the product or quotient of two integers with different signs is negative and the product or quotient of two integers with the same sign is positive.

    - Example: 5(-3) = -15 and (-6)(-4) = 24   Example: -14/2 = -7 and -20/-4 = 5

- THE DISTRIBUTIVE PROPERTY- combines multiplication with addition or subtraction

    - Example: 3(x + 2) = 3x + 6 and 4(y – 3) = 4y – 12

- ORDER OF OPERATIONS- Evaluate the expressions inside the parenthesis, multiply and/or divide from left to right, and then add and/or subtract from left to right. (PEMDAS)

    - Example: $5(6 + 1) – 3*3 = 26$

- EVALUATE EXPRESSIONS- replace the variable(s) with known values and follow order of operations.

    - Example: Evaluate when x = 2 and y = 3; $5xy + x = 5(2)(3) + 2 = 32$

- ONE STEP EQUATIONS/ TWO STEP EQUATIONS- An equation is a mathematical statement that has two expressions separated by an equal sign. The expression on the left side of the equal sign has the same value as the expression on the right side. To solve an equation means to determine a numerical value for a variable that makes this statement true by isolating or moving everything except the variable to one side of the equation. To do this, combine like terms on each side, then add or subtract the same value from both sides. Remember to keep both sides of an equation equal, you must do exactly the same thing to each side of the equation.

    - Example: Solve: x + 5 = 11; subtract 5 on both sides; x = 6 and 2x – 3 = 13; add 3 on both sides, then divide by 2; x = 8

- PLOTING POINTS- The first coordinate of a plotted point is called the '**x**' coordinate. The 'x' coordinate is the horizontal distance from the origin to the plotted point. The second coordinate of a plotted point is called the '**y**' coordinate. The 'y' coordinate is the vertical distance from the origin to the plotted point.

    - Example: to locate the point: (2, 3) on our graph below, we start at the origin and move 2 units horizontally and 3 units vertically

- ROUND DECIMALS – Understand the place values 2.375; "2" is the number of ones; "3" is the number of tenths; "7" is the number of hundredths; "5" is the number of thousandths. Next find the place value you want to round to then look at one place value to the right based on the number in this place, you'll round either up if the number if 5 or greater or keep the value if it less than 5.

    - Example: round 12.8953 to the tenths place value; the 8 is in the tenths place value refer to the 9 to determine that the 8 needs to be rounded to a 9 = 12.9

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Simplify each expression

1. $-3 + (-2)=$

2. $-6 + 4=$

3. $2 + (-2)=$

4. $-5 + 3 + 3=$

5. $-2 + (-1) + 6=$

6. $2 + (-7) + (-1)=$

7. $9 + (-4) + 3=$

8. $\frac{2}{3} + \left(-\frac{5}{3}\right)=$

9. $-6.3 + 7.4=$

10. $-4x + 7x=$

11. $-10t + 9t=$

12. $3y + 6y + (-10y)=$

13. $5 - 11 =$

14. $\frac{9}{8} - \left(-\frac{3}{4}\right)=$

15. $11.08 - 3.6 =$

16. $-5x - 5x=$

17. $-7y - (-12y)=$

18. $4z - 15z=$

19. $15xy - (-6xy)=$

20. $36c - (-81c)=$

21. $-53va - 32va=$

22. $-35m - (-35m)=$

23. $4x - (-3x) + 5y - 4y=$

24. $25 - 7x + 5=$

MULTIPLYING/ DIVIDING INTEGERS-<u>DO NOT USE A CALCULATOR</u>

1. Positive (Positive) = _____

2. Positive (Negative) = _____

3. Negative(Positive) = _____

4. Negative(Negative) = _____

5. $-4\ (-15)=$

6. $-8\ (\ 7)=$

7. $2.3\ (-5.1)\ =$

8. $0.3\ (-6)\ =$

9. $(-3)\ (-9)\ (2)\ =$

10. $(2)\ (-5)\ (-5)\ =$

11. $(8)\ (-2)\ (1)\ =$

12. $(-7)\ (-8)\ (-3)\ (0)\ =$

13. Positive / (Positive) = _____

14. Positive / (Negative) = _____

15. Negative / (Positive) = _____

16. Negative / (Negative) = _____

17. $\frac{12}{-6}=$

18. $-15\ /\ 3=$

19. $-21\ \div (-7)=$

20. $30\ /\ (-5)=$

21. $\frac{0}{-6}=$

22. $\frac{-4}{0}=$

23. $64\ /\ 0.8=$

24. $-49\ /\ 7=$

25. $-24\ /\ (-8)=$

26. $\frac{5}{3}\div\ (-3)=$

27. $-5.6\ /\ 7=$

THE DISTRIBUTIVE PROPERTY <u>DO NOT USE A CALCULATOR</u>

Use the distributive property to write expression as an equivalent expression.

1. $3(x + 2) =$

7. $(x + 3)(-3) =$

2. $4(w - 5) =$

8. $-11(t - 6) =$

3. $-2(c + 7) =$

9. $8(x + 60) =$

4. $(p - 10)8 =$

10. $-(x + 2) =$

5. $-15(4 + n) =$

11. $-(x - 3) + 6 =$

6. $-12(x - 12) =$

12. $2(x + 2) + 3x =$

Evaluate each expression

1. $6 + 3(9) =$

6. $2[(13 - 4) + 2(2)] =$

2. $14 - 6 + 8 =$

7. $8(7) - 14 + 2 =$

3. $\dfrac{60}{5(3)} =$

8. $-9 + 3 \div 3 =$

9. $-3(4 + 5) + -9 =$

4. $\dfrac{25}{11-6} =$

10. $7 - 10 * 2 / 4 =$

5. $2(6 + 2) - 4(3) =$

Evaluate each expression if $x = 10$, $y = -5$, $z = 1$

1. $x + y - z$

6. $x(2 + z)$

2. $\dfrac{x}{y}$

7. $x - 2y$

3. $2x + 4z$

8. $\dfrac{x+y}{z}$

4. $xy + z$

9. $-2x - 5$

5. $\dfrac{6y}{10z}$

10. $5(z - x)$

ONE STEP EQUATIONS <u>DO NOT USE A CALCULATOR</u>

Solve each equation and check your solution

1. $-3x = 15$

6. $11 + x = 10$

2. $-x = 5$

7. $x - 7 = -5$

3. $\frac{x}{8} = 0$

8. $-3 + x = -7$

4. $\frac{x}{2} = -1$

9. $y - (-9) = 12$

10. $4x = -2$

5. $x + 5 = 2$

TWO STEP EQUATIONS <u>DO NOT USE A CALCULATOR</u>

Solve each equation and check your solution.

1. $3x - 5 = 4$

6. $8 + 7x = -13$

2. $\frac{1}{7}x - 15 = -5$

7. $5x + 5 = 35$

3. $2(2x + 3) = 6$
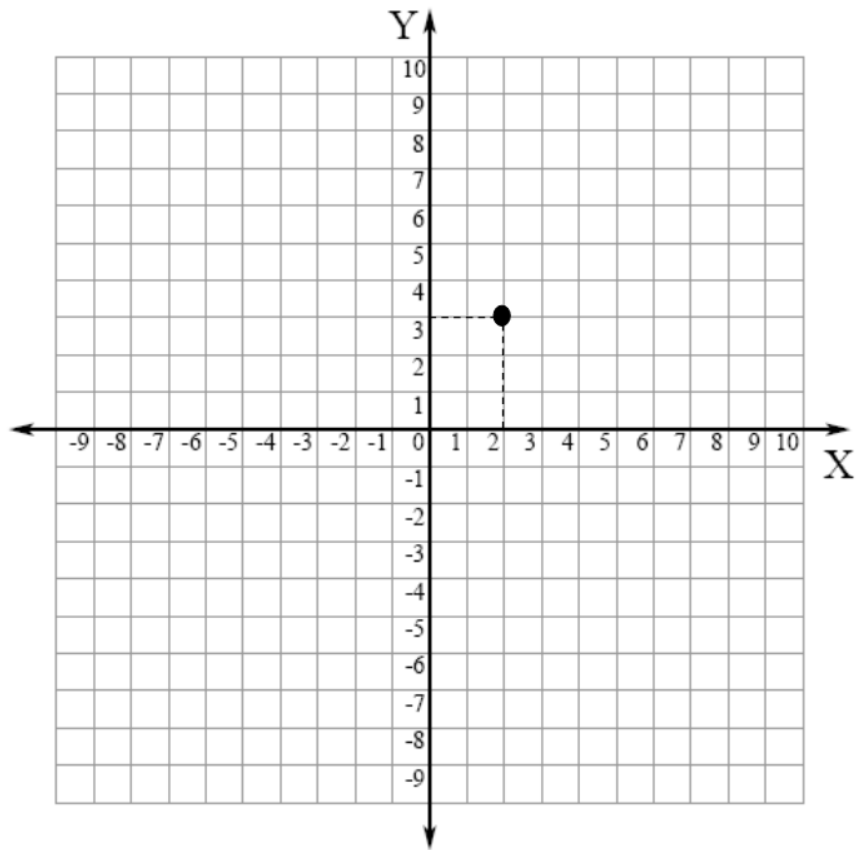
8. $\frac{x}{5} - 8 = -13$

4. $2x + 7 = 31$

9. $3 = 4 + \frac{x}{-3}$

5. $\frac{1}{4}x + 9 = -2$
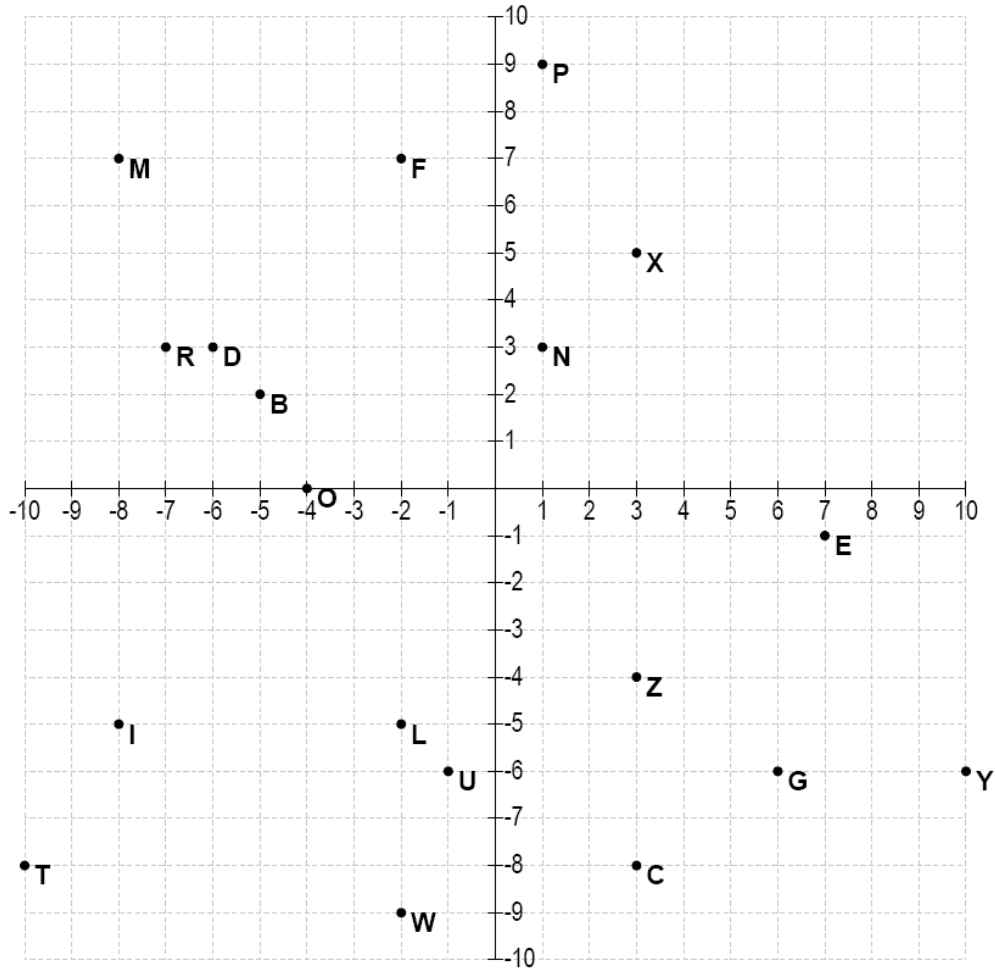
10. $-4(x - 3) = 24$

PLOTTING POINTS

Plot each of the points on the graph and label with the letter given

(1) Point D at (0, 10)   (5) Point E at (-4, -8)   (9) Point P at (9, -10)

(2) Point J at (-1, 6)   (6) Point F at (5, 6)   (10) Point G at (-7, 9)

(3) Point O at (-8, 1)   (7) Point S at (-8, 2)   (11) Point Z at (7, -5)

(4) Point B at (-9, -3)   (8) Point H at (6, 8)   (12) Point Y at (0, -8)

PLOTTING POINTS

Write the coordinates of each point:

1) Point L:

2) Point U:

3) Point B:

4) Point P:

5) Point C:

6) Point F:

7) Point X:

8) Point I:

9) Point G:

10) Point M:

11) Point N:

12) Point D:

13) Point Y:

14) Point R:

15) Point E:

16) Point O:

17) Point W:

18) Point T:

ROUNDING DECIMALS

Round to the nearest tenth.

1) - 8.54 _____   2) 9.725 _____

3) 310.286 _____   4) - 65.836 _____

5) 90.79 _____   6) 877.71 _____

Round to the nearest hundredth.

7) 4.826 _____   8) -3.009 _____

9) 723.543 _____   10) 815.755 _____

11) -6.0127 _____   12) 0.03289 _____

Round to the nearest whole number.

13) 4.012 _____   14) 9.459 _____

15) 95.81 _____   16) 76.3 _____

17) 70.59 _____   18) 19.83 _____