

June, 2024

Dear TCA 8<sup>th</sup> grade students,

This packet is your summer math work for entering the 8<sup>th</sup> grade. To receive full credit, you must show all of your work on the page. If there is not enough room, you can use a separate piece of paper and include it with your work. All work should be done in pencil and be neat enough to read. Be sure that you read the directions before starting the problems.

If you have trouble working on the problems, you can look at online resources or ask a parent or friend for help. Some good online resources are: [mathisfun.com](http://mathisfun.com), [khanacademy.com](http://khanacademy.com), and [purplemath.com](http://purplemath.com).

This work should be spread out over the summer. This math packet is due the first day of school. It will count as a quiz grade.

Have a great summer!

Ms. Coughlin

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| <p>1. Evaluate using order of operations.</p> $6 + (3 + 9) \cdot 10 - 2^3$               | <p>2. Evaluate each absolute value expression.</p> $ -12 $ $ 0 $ $ 25 $                    |
| <p>3. List the integers in order from least to greatest.</p> <p>-3, 8, 0, 3, -5, -2</p>  | <p>4. Evaluate the following expressions.</p> $12 + (-7)$ $-24 + (-8)$ $-30 + 12$          |
| <p>5. Evaluate the following expressions.</p> $-15 - 6$ $4 - 10$ $-8 - (-8)$             | <p>6. Evaluate the following expressions.</p> $-12 \cdot -5$ $15 \cdot -3$ $-11 \cdot -30$ |
| <p>7. Evaluate the following expressions.</p> $-40 \div 8$ $120 \div -6$ $-250 \div -25$ | <p>8. Use order of operations to evaluate the expression.</p> $(-3)^3 - 2 + 8 \div (-8)$   |

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| <p>9. Evaluate the expressions (write as a number or fraction with no exponents).</p> $5^3$ $(-2)^4$ | <p>10. Evaluate the expressions.</p> $2^{-4}$ $6^{-2}$        |
| <p>11. Evaluate the expressions.</p> $\frac{3^{17}}{3^{17}}$   | <p>12. Evaluate the expressions.</p> $2^2 \cdot 2^3$          |
| <p>13. Solve for x.</p> $x + 6 = 50$ $x + 14 = -5$   | <p>14. Solve for x.</p> $x - (-5) = 10$ $x - 4 = -13$         |
| <p>15. Solve for x.</p> $-11x = 33$ $12x = 48$   | <p>16. Solve for x.</p> $\frac{x}{8} = 7$ $\frac{x}{-4} = -5$ |

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| <p>17. Solve for x.</p> $\frac{x}{7} + 10 = 26$                         | <p>18. Solve for x.</p> $-5x - 9 = -3$                                   |
| <p>19. Combine like terms and solve for x.</p> $3x + 4 - 2x + 8x = 22$  | <p>20. Combine like terms and solve for x.</p> $-7x - 20 + 12 + 4x = 13$ |
| <p>21. Draw a number line and graph the inequality.</p> $x \geq 7$      | <p>22. Draw a number line and graph the inequality.</p> $x < -5$         |
| <p>23. Solve for x and then graph the answer.</p> $\frac{x}{8} - 7 > 2$ | <p>24. Solve for x and then graph the answer.</p> $2x + 8 \leq 30$       |

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| <p>25. List the decimals in order from least to greatest.</p> <p>4.76, - 5.23, 0.1, 4.74, -21.6</p> | <p>26. List the numbers in order from least to greatest.</p> <p>2.3741, 2.374, 2.384, 2.3831</p> |
| <p>27.</p> <p><math>27.815 + 3.62</math></p>  | <p>28.</p> <p><math>3.5 - 1.257</math></p>   |
| <p>29.</p> <p><math>35.62 \cdot 0.72</math></p>   | <p>30.</p> <p><math>23.65 \div 0.5</math></p>  |
| <p>31. Solve for x.</p> <p><math>0.5x - 4.25 = 7.25</math></p>                                      | <p>32. Solve for x.</p> <p><math>\frac{x}{7} + 11.12 = 15.6</math></p>                           |

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| <p>33. Write in scientific notation.</p> <p>283,000,000</p>            | <p>34. Write in scientific notation.</p> <p>0.0004</p>   |
| <p>35. Write in standard form.</p> <p><math>3.1 \times 10^5</math></p> | <p>36. Write in standard form.</p> <p><math>8 \times 10^{-3}</math></p>  |
| <p>37. Convert milliliters to liters.</p> <p>2500 ml</p>               | <p>38. Convert kilometers to centimeters.</p> <p>3.4 km</p>  |
| <p>39. Find the prime factorization of 100 using a factor tree.</p>    | <p>40. Find the greatest common factor of 90 and 126.</p>  |
| <p>41. Find the least common multiple for 8 and 10.</p>                | <p>42. List the numbers in order from least to greatest.</p> <p><math>\frac{3}{4}</math>, <math>\frac{2}{3}</math>, 0.72, 0.6, 0.8</p> |

43.

$$\frac{5}{6} + \frac{1}{8}$$

44.

$$3\frac{3}{5} + 5\frac{21}{30}$$

45.

$$\frac{1}{2} - \frac{5}{11}$$

46.

$$12\frac{3}{4} - 3\frac{5}{6}$$

47.

$$\frac{3}{8} \cdot \frac{5}{9}$$

48.

$$2\frac{2}{5} \cdot 4\frac{2}{3}$$

49.

$$\frac{3}{20} \div \frac{2}{7}$$

50.

$$6\frac{1}{4} \div 1\frac{3}{5}$$

51.  $-\frac{5}{7} + \frac{4}{5}$

52.  $-\frac{7}{8} - \frac{5}{6}$

53.  $-2\frac{2}{3} \cdot -\frac{9}{16}$

54.  $-5\frac{2}{4} \div \frac{33}{40}$

55. Solve for x.

$$x + \frac{2}{7} = 5$$

56. Solve for x.

$$x - \frac{5}{8} = \frac{1}{4}$$



57. Solve for x.

$$\frac{4}{5}x = \frac{2}{7}$$

58. Solve for x.

$$x \div \frac{5}{12} = \frac{2}{3}$$

59. For every 13 blue pens there are 5 red pens. Write the ratio of blue pens to red pens in each of the following forms.

Word form:

Ratio form:

Fraction form:

60. Alex bought 8 copies of the same book for \$46. What is the unit price?

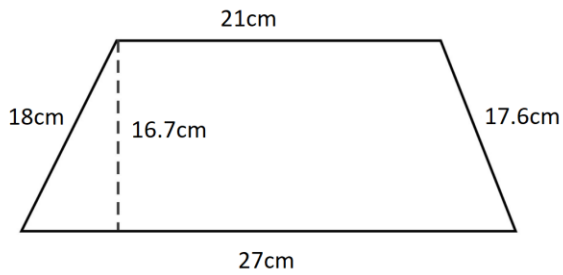
61. Joanne traveled 330 miles in 7 hours. Find the unit rate.

62. Solve for x.

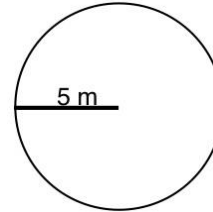
$$\frac{4}{7} = \frac{10}{x}$$

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| <p>63. Solve for a.</p> $\frac{a}{14} = \frac{20}{35}$  | <p>64. Lara is putting tiles down. For every 6 white tiles, there are 2 blue tiles. In total there are 72 blue tiles. How many white tiles are there?</p>   |
| <p>65. A 6 ft. tall man is standing outside. His shadow is 45 ft. long. At the same location, there is a tree with a shadow that is 165 ft. long. How tall is the tree?</p> | <p>66. The scale on a map is <math>\frac{1}{2}</math> inch represents 300 miles. If the distance between two cities on the map is 3 inches, what is the actual distance between the two cities?</p> |
| <p>67. Write as a percent.</p> $\frac{75}{1000}$  | <p>68. Write as a percent.</p> <p>5.72</p>  |
| <p>69. Write as a decimal.</p> <p>21%</p>   | <p>70. What is 31% of 250?</p>  |

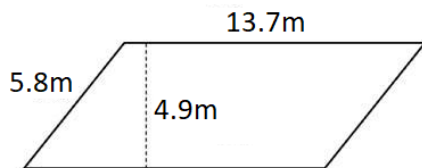
71. Find the area of the trapezoid.



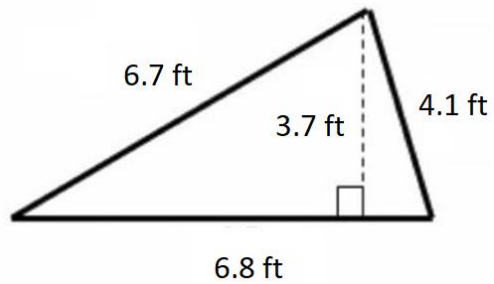
72. Find the area of the circle. Use 3.14 for pi.



73. Find the area of the parallelogram.



74. Find the area of the triangle.



75. Draw the following and label: an acute angle, right angle, obtuse angle.

76. Draw the following and label: a right triangle, acute triangle, and obtuse triangle.