

Name: _____

OPTIONAL

Rising 7th Grader Math Summer Packet

(going into Pre-Algebra 2 or Pre-Algebra 2 Advanced)

Dear Students and Parents: Summer is a time to relax and have fun. It's also a great time to stay sharp on your math problem-solving skills. Some of the problems in this packet will be easy, and others more challenging. Use the problems in this packet in the way that is best for you. You will be expected to be familiar with this material as you begin your 7th-grade math adventure. I have provided some resources for you if you need help. **Please note: this packet is optional, but highly suggested.** If you want my advice, take June and early July as your break from school, and then use this packet as you begin to prepare for coming back. You earn extra credit for your **WORK** and NOT your **ANSWERS**, so be sure to document thoroughly! My suggestion for you is to show your work on a separate sheet and place your answer on this main packet. If there is something that you are unable to complete, don't worry- you will have plenty of time to ask me questions next year. I am so excited to be your math teacher next year! Happy Summer! -Ms. Donabedian

Number Sense

Rounding Decimals

Directions: Round the following numbers.

Need help? [LINK](#)

1. Round 34.33 to the nearest tenth	2. Round 523.238 to the nearest hundredth	3. Round 8.99 to the nearest tenth
4. Round 2.345 to the nearest hundredth	5. Round 319.09 to the nearest tenth	6. Round 101.5 to the nearest whole number
7. Round 1.635 to the nearest hundredth	8. Round 5.55 to the nearest tenth	9. Round 16.996 to the nearest hundredth

Whole Number Operations

Directions: Perform the given operations. When dividing, you should not use remainders. Continue to divide until the decimal terminates. Show all your work.

10. $9123 - 7998$

11. $42 \cdot 118$

12. $986 \div 58$

13. $840 \div 105$

14. $5210 - 1876$

15. $4000 - 589$

16. $759 \cdot 432$

17. $882 \div 10$

18. $51 \div 12$

Prime Factorization

Directions: Find the prime factorization of each number. Represent your answer as the product of exponents if possible. The first one is done for you as an example. Show all your work.

Need help? [LINK](#)

19. 48
48

$2 \cdot 24$

$2 \cdot 12$

$2 \cdot 6$

$2 \cdot 3$

answer : $2^4 \cdot 3$

20. 1575

21. 225

22. 88	23. 90	24. 462
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Greatest Common Factor		
Directions: Find the Greatest Common Factor of the following terms. Show all your work. Need help? LINK		
25. 27, 63	26. 36, 81	27. 72, 84
28. 61, 73	29. 189, 200	30. 30, 60, 78

Exponent and Powers		
Directions: Expand the following expressions and then find the value. The first one is done for you. Show all your work. Need help? LINK		
31. 2^3 $2 \cdot 2 \cdot 2$ $4 \cdot 2$ 8	32. 4^4	33. 5^3

34. 2^8

35. 15^2

36. 6^3

Order of Operations**Directions:** Evaluate the following expressions, showing all your work.

37.

$$3 \times 18 - 8 \div 2$$

38.

$$48 \div 8 \times 2 + (30 - 16) \times 7$$

39.

$$30 \div (7 + 2^3) \times 6$$

40.

$$4 \cdot 3^2 + 18 - 9$$

41.

$$16 + (5^2 - 7) \div 3$$

42.

$$\frac{8(3 + 4)}{7}$$

43.

$$15 - 4(6 + 1) \div 2^2$$

44.

$$50 + 6(12 \div 4) - 8^2$$

45.

$$(3 - 1)^3 + 7(6) - 5^2$$

46. $2 \times (9 \times 5 + 3^2) + 4$	47. $(10 + 59 - 3^2) \div (24 - 4)$	48. $(6 + 4)^2 + (11 + 10 \div 2)$
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Operations with Fractions

Fractions: solve the problems below, showing all work.

Need help? [LINK](#)

49. Convert to an improper fraction: $4\frac{2}{3}$	50. Convert to an improper fraction: $10\frac{1}{8}$	51. Convert to a mixed number: $\frac{17}{4}$
52. Convert to a mixed number: $\frac{54}{8}$	53. What is the reciprocal of $\frac{4}{7}$	54. What is the reciprocal of 2
55. Order from least to greatest: $\frac{1}{2} \quad \frac{1}{4} \quad \frac{3}{8}$	56. Order from least to greatest: $2 \quad \frac{3}{4} \quad \frac{1}{2}$	57. Order from least to greatest: $\frac{4}{5} \quad 1 \quad 1\frac{1}{5}$

Adding and Subtracting Fractions: solve the problems below, showing all work. Make sure fractions are in simplest terms, you may keep your fractions improper.

Need help? [LINK](#)

58. $\frac{4}{5} + \frac{2}{5}$	59. $\frac{2}{7} + \frac{1}{3}$	60. $3\frac{1}{5} + \frac{3}{4}$
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61. $\frac{8}{9} - \frac{1}{3}$	62. $\frac{2}{5} - \frac{1}{6}$	63. $8\frac{1}{2} - 1\frac{3}{5}$
64. $\frac{6}{9} - \frac{1}{3} + \frac{2}{3}$	65. $4\frac{1}{2} + \frac{1}{6} - 1\frac{5}{6}$	66. $1\frac{4}{5} + 2\frac{1}{10} + 3\frac{3}{5}$

Multiplying and Dividing Fractions: solve the problems below, showing all work. Make sure fractions are in simplest terms, you may keep your fractions improper.

Need help? [LINK](#)

67. $\frac{1}{2} \cdot \frac{2}{3}$	68. $\frac{10}{11} \cdot \frac{33}{100}$	69. $\left(\frac{3}{4}\right)^2$
70. $1\frac{2}{5} \cdot \frac{1}{10}$	71. $\frac{2}{3} \div \frac{1}{8}$	72. $2\frac{2}{3} \div \frac{7}{9}$

73. $3\frac{4}{5} \div 1\frac{1}{6}$	74. $\left(\frac{1}{2} + \frac{2}{3}\right) \cdot \frac{6}{11}$	75. $\frac{1}{4} \cdot 2\frac{2}{3} \div 1\frac{2}{5}$
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Operations with Decimals

Repeating Decimals: the following division problems will result in repeating decimals. See the first example done for you.

Need help? [LINK](#)

<p>76. $1 \div 3$</p> <p>0.33</p> <p>3)$\overline{100}$</p> <p><u> 9</u></p> <p>10</p> <p><u> 9</u></p> <p>0.3</p>	77. $20 \div 9$	78. $13 \div 3$
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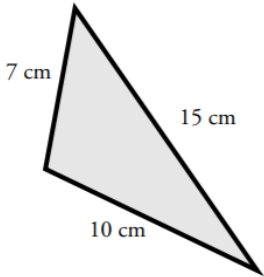
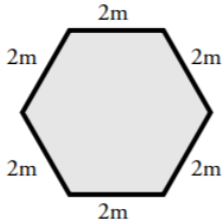
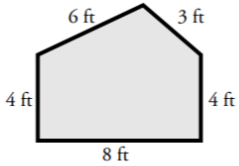
Adding and Subtracting Decimals: solve the problems below, showing all work.

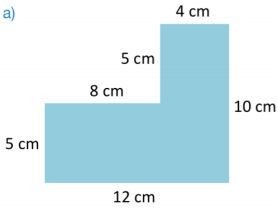
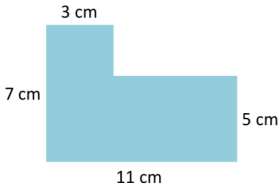
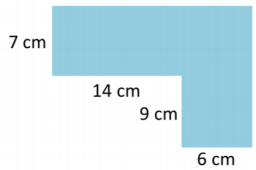
79. $9.96 - 8.9$	80. $7.96 + 8.9$	81. $10.96 - 8.5$
82. $3.99 + 4.1 - 6.992$	83. $13.6 + 12 - 15.55$	84. $25.6 - 12.68$

85. $25.92 - 18.478 + 8.164$	86. $6.105 + 10.4 + 3.075$	87. $22.6 - 12.286 - 3.542$
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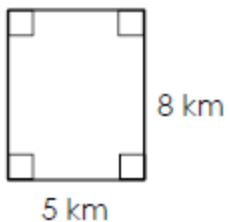
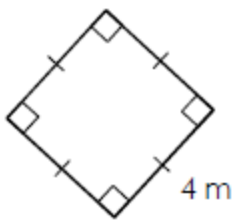
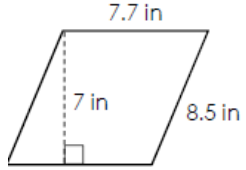
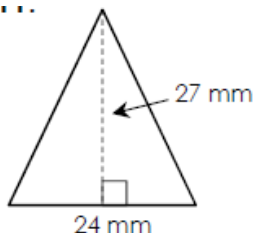
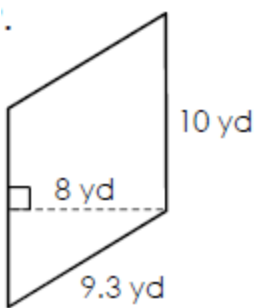
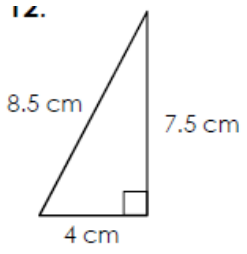
Multiplying and Dividing Decimals: solve the problems below, showing all work.		
88. $0.2 \cdot 1.6$	89. $4.6 \cdot 7.2$	90. $1.2 (3.40)$
91. $2.04 \div 0.2$	92. $48.4 \div 0.8$	93. $0.085 \div 5$
94. $7.68 + 3.18 \div 12$	95. $35.25 \div 5 \div 3$	96. $13.41 \times (5.4 \div 9)$

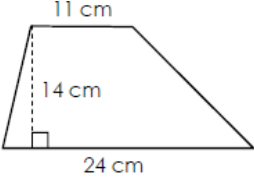
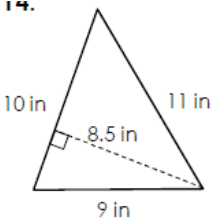
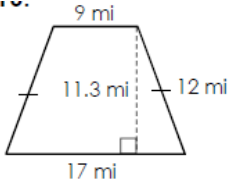
Geometry

Directions: find the perimeter of the shapes below		
 <p>97.</p>	 <p>98.</p>	 <p>99.</p>

<p>100.</p> <p>a)</p> 	<p>101.</p> 	<p>102.</p> 
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Directions: find the area of the shapes below. If you do not remember the formulas, use this [link](#).

<p>103.</p> 	<p>104.</p> 	<p>105.</p> 
<p>106.</p> 	<p>107.</p> 	<p>108.</p> 

<p>109.</p>  <p>A trapezoid with a top horizontal base of 11 cm and a bottom horizontal base of 24 cm. A dashed vertical line from the top base to the bottom base represents the height, which is 14 cm. A right-angle symbol is shown at the intersection of the height and the bottom base.</p>	<p>110.</p>  <p>A triangle with a base of 9 in. The left side is 10 in and the right side is 11 in. A dashed vertical line from the top vertex to the base represents the height, which is 8.5 in. A right-angle symbol is shown at the intersection of the height and the base.</p>	<p>111.</p>  <p>A trapezoid with a top horizontal base of 9 mi and a bottom horizontal base of 17 mi. A dashed vertical line from the top base to the bottom base represents the height, which is 11.3 mi. A right-angle symbol is shown at the intersection of the height and the bottom base. The right slanted side is labeled 12 mi.</p>
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Extras:

[Math Stars Problem Solving](#)

- Fantastic printable resources for students.

[Math Wire](#)

- Neat and creative problems to solve for K-8.

[Prodigy Math Game](#)

- Fun math practice for grades 1-8. Content adapts to each player. Every major math topic - more than 1500 skills are embedded into the game.

[Math Counts](#)

- This handbook contains 300 creative problems for grades 6-8. All problems are mapped according to topic and difficulty level.