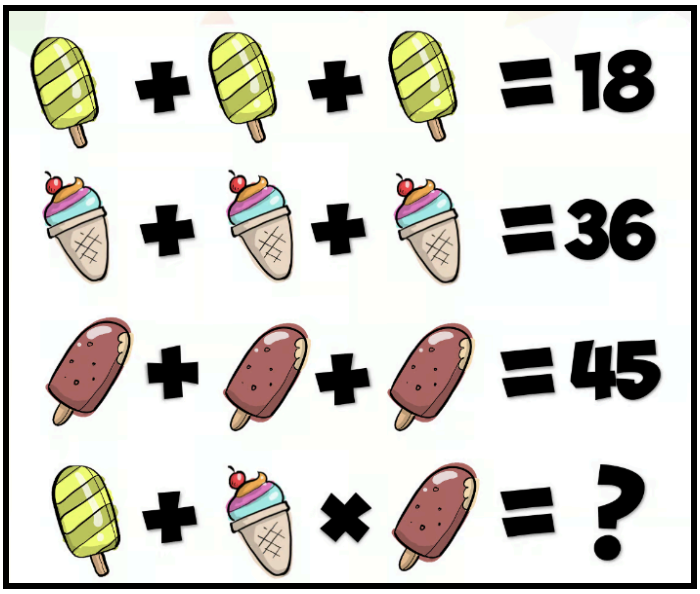
Sacred Heart Greenwich
Rising 7th Grade
Summer Math Packet



NAME: _____

Dear Rising 7th Grader,

This summer assignment math skills packet is designed to help you make a strong start in math class next year. You should try to solve a few problems each day. Additionally you should continue to spend at least 30 minutes a week on IXL practice. Math facts are needed as well so get those flashcards working. Do not wait until the end of the summer to complete the packet. It is essential that you display your calculations and problem-solving steps on the page, either below or next to the problem. If you need more room, you can use scrap paper, but please make sure you number the problems and keep your work neat and organized. NO WORK NO CREDIT! Please be responsible for completing the work. It will be really good for you, and then you can relax by reading a good book (summer reading or one of your own choice!) You might not have learned or remember all of the concepts and skills that are included in the packet, and that is fine. Use online resources to look up videos and practice problems, if you are struggling with any of the problems. **This is a required assignment and you will be tested on the material during the first few weeks of school.**

Have a wonderful summer!

Section 1: Number Sense, Expressions, and Equations

Describe the pattern. Then find the next two numbers

The Pattern	**Describe the Pattern in Words**	**What are the Next 2 Numbers?**
1) 5, 9, 13, 17		
2) 50, 43, 36, 29		

Evaluate the expression or find the value of the provided information

3) 7^3	**4)** 6^4	**5)** 2 cubed	**6)** 12 squared

Evaluate the expression when x = 9 and y = 4

7) $2x \div 3 + 5$	**8)** $4x + y$

9) $x - y \div 2$	**10)** $x + y^2$

Evaluate the expression using the correct Order of Operations. PEMDAS

11) $27 - 17 + 4$	**12)** $5 \bullet 12 \div 20$	**13)** $10 - 2 \bullet 3 + 7$
14) $4 + 3^3$	**15)** $9 \bullet (2 + 6) \div 12$	**16)** $\frac{8^2}{9-5}$

Write the phrase as an algebraic expression. Let *n* represent the number

17) A number increased by 7	**18)** 30 multiplied by a number
19) A number subtracted from 20	**20)** The quotient of a number and 50

Solve the one step equation for the variable using inverse operations. (SHOW ALL WORK)

21) $9 + p = 388$	**22)** $x + 17 = 50$
23) $16 + z = 30$	**24)** $q - 2.82 = 4.78$
25) $8 = z - 8$	**26)** $x - 31 = 410$

27) $30 = 6n$

28) $20c = 1020$

29) $8n = 120$

30) $68 = 4x$

31) $\frac{x}{12} = 5$

32) $117 = \frac{b}{13}$

33) $\frac{x}{26} = 3$

34) $\frac{x}{3} = 85$

Section 2: Ratios, Proportions, and Percents

1. Identify the scale factor. 2. Complete the statement by finding the value of the variable.

35) $\frac{3}{8} = \frac{9}{x}$	**36)** $\frac{10}{x} = \frac{1}{2}$
37) $\frac{x}{12} = \frac{7}{6}$	**38)** $\frac{3}{5} = \frac{x}{15}$

Use proportional reasoning to find the value of the variable.

39) $\frac{\$5}{2\ items} = \frac{x}{12\ items}$	**40)** $\frac{38\ cm}{30\ min} = \frac{x}{15\ min}$

Find the unit rate. This means to find the number of visitors per ONE hour and the meters per ONE second.

41) $\frac{2750\ visitors}{10\ hours}$	**42)** $\frac{90\ meters}{18\ seconds}$

Fill out the fraction, decimal, and percent table below:

Fractions	Decimal	Percent
43) $\frac{17}{20}$		
44) $\frac{3}{8}$		
45) $\frac{5}{12}$		
46) $\frac{30}{75}$		

Decimal	Fraction	Percent
47) 0.83		
48) 0.9		
49) 0.005		
50) 0.65		

Order the numbers from least to greatest

51) $0.24,\ \frac{7}{25},\ \frac{1}{4},\ 23\%$
52) $76\%,\ \frac{5}{6},\ 0.75,\ \frac{2}{3}$

53) $0.2,\ \frac{3}{20},\ 14\%,\ 0.018$

Find the percent of the number (Google "finding percent of a number" if you need help)

54) 20% of 90

55) 8% of 4

56) 16% of 350

57) 30% of 150

58) a.) You want to buy a sweater that costs $18.50. The sales tax is 5%. You realize you only have $20 with you. Can you buy the sweater?

b.) You scored a 18/20 on your test. Nice! What is that score as a percentage?

c.) 32 students in the grade have brown hair. That is 64% of the grade. How many students are there in the grade?

Section 3: Integers

Find the sum

59) $8 + -22$	**60)** $-6 + 10$	**61)** $6 + -12$	**62)** $-5 + -5$
63) $2 + -15$	**64)** $-14 + 13$	**65)** $-20 + 16$	**66)** $-9 + -5$

Find the difference

67) $2 - 7$	**68)** $13 - -3$	**69)** $-7 - 9$	**70)** $-24 - -7$
71) $16 - -17$	**72)** $-10 - 18$	**73)** $-9 - -11$	**74)** $8 - 17$

Find the product

75) $13(4)$	**76)** $-8(5)$	**77)** $-6(10)$	**78)** $-7(-20)$
79) $0(-12)$	**80)** $-4(-8)$	**81)** $14(-5)$	**82)** $-11(-9)$

Find the quotient

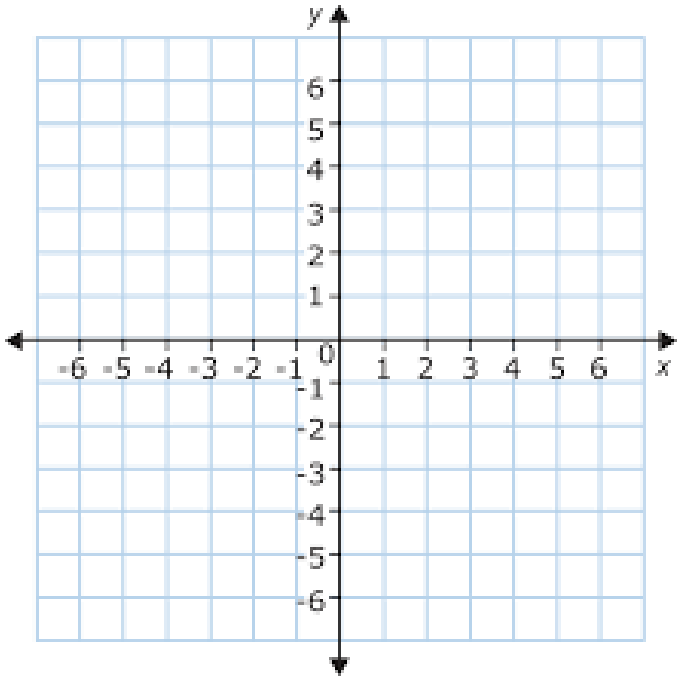
83) $-9 \div -1$	**84)** $-200 \div 25$	**85)** $42 \div -6$	**86)** $-70 \div -14$
87) $110 \div -5$	**88)** $-45 \div 15$	**89)** $-51 \div -17$	**90)** $300 \div -12$

Order the integers from least to greatest.

91) $3, -4, 7, -2, -1$	**92)** $-5, 6, -1, 4, -3$

93.) Graph the points on the same coordinate grid. Label the four quadrants.

1) (0,0)
2) (7, 1)
3) (-2, 3)
4) (5, -4)
5) (1, 0)
6) (-1, -5)



Section 5: Decimals

Complete the statement with <, > or =. Order greatest to least for #101-103

96) - 5.7 _____ -7.5	**97)** 13.76 _____13.81	**98)** 6.05 _____ 6.50
99) -0.90, -0.09, -0.99, -0.83	**100)** -2.3, -2.12, -2.01	**101)** 4.5, 4.05, 4.56

Round the decimal as specified

102) 13.2709 (nearest tenth)	**103)** 0.09090909 (nearest hundredth)

Find the product.

104) $27.5 \bullet 6.02$
105) $22 \bullet 5.695$

Divide - round to the nearest tenth when necessary

106) $9.9 \div 11$	**107)** $13.5 \div 9$

108) $21 \div 8$	**109)** $4.2 \div 4$

Write the decimal as a fraction or mixed number in simplest form

110) 6.95	111) 3.8	112) 2.08

Section 6: Fractions

Write two fractions that are equivalent to the given fraction

113) $\frac{4}{7}$	114) $\frac{2}{5}$	115) $\frac{5}{6}$	116) $\frac{3}{10}$

Order the fractions from least to greatest

117) $\frac{1}{2}, \frac{2}{5}, \frac{3}{8}, \frac{7}{12}$	118) $\frac{2}{5}, \frac{4}{15}, \frac{3}{20}, \frac{2}{9}$

Find the sum, difference, product or quotient

119) $\frac{5}{8} + \frac{1}{8}$

120) $\frac{7}{12} + \frac{5}{12}$

121) $6\frac{5}{6} - 4\frac{1}{6}$

122) $2\frac{5}{12} + 4\frac{2}{3}$

123) $25 \bullet \frac{3}{8}$

124) $10 \bullet \frac{1}{3}$

125) $\frac{7}{12} \bullet \frac{8}{9}$

126) $\frac{5}{6} \div 4$

127) $\frac{5}{3} \bullet \frac{3}{4}$

128) $\frac{7}{12} \div \frac{8}{9}$

Section 7: Geometry topics you need for 7th grade:

Area & Perimeter - you will need to know the formulas for area and perimeter of a triangle, rectangle, parallelogram and circle.

Circumference

$C = \pi d$ or $C = 2\pi r$ $\pi = 3.14$

Area

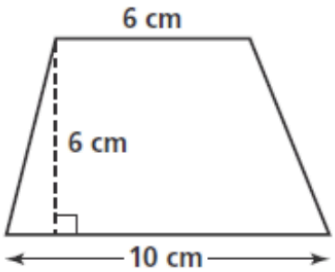
Rectangle	$A = bh$ or $A = lw$
Triangle	$A = \frac{1}{2} bh$
Circle	$A = \pi r^2$

Parallelogram ***A = bh***

Use what you know about a rectangle and a triangle to find the area of the trapezoids below:

Exercises 1 - 6: Find the area of each trapezoid.

1)



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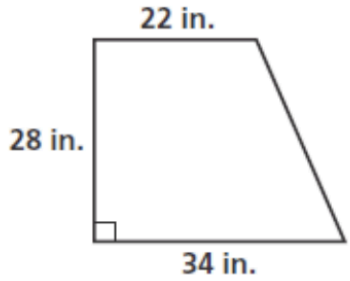
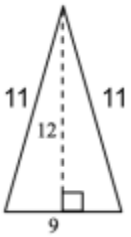


Find the area and perimeter:

4.



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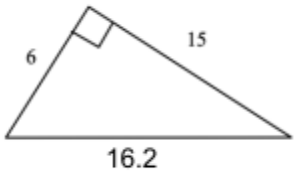

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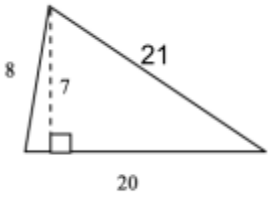

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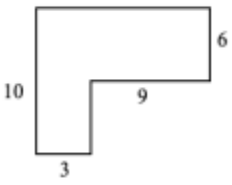

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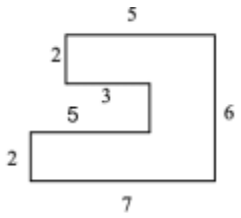

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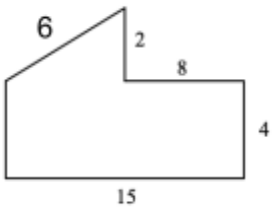
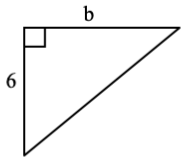


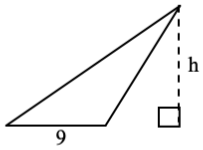
Find the missing base or height of each figure given the area

10. Area = 55

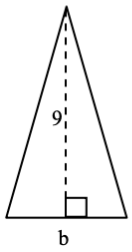
11. Area = 15



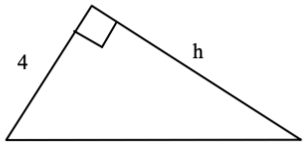
12. Area = 45



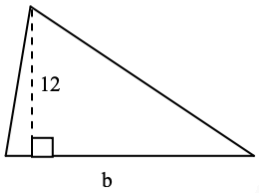
13. Area = 18



14. Area = 16



15. Area = 96



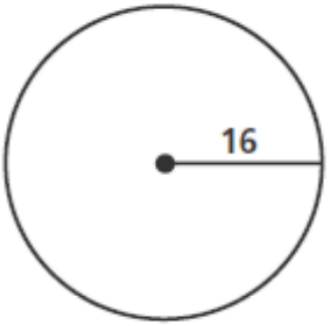
Exercises 7 - 9: Find the area of each parallelogram with the given base and height.

7) base: 3 cm; height: 1.5 cm

8) base: 60 in.; height: 22 in.

Exercises 1 - 6: Find the circumference and the area of each circle in terms of π.

1)



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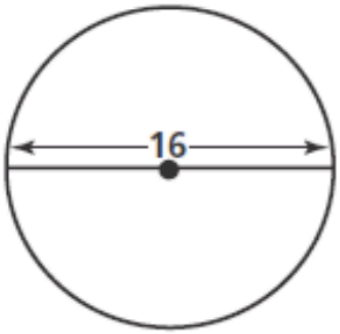

3)

4)

Reflection

What topics do you find easiest? What topics do you struggle with the most? Is there any topic you are looking forward to learning next year?

Draw a picture of you celebrating being done with your summer Math packet!

Great work! Remember to log in to IXL - shoot for 30 minutes a week and pick any topics from this packet that you struggled with and *don't forget to practice your math facts!*