IMPACT ACADEMY

MATH NEST: SUMMER EDITION

Build your skills where wisdom takes flight - one problem at a time

Your 6th Grade math teacher is very excited to meet you and work with you in the upcoming year!

Please use the following problems to practice the prerequisite skills needed to be most prepared for 6th grade math. Your student should work through the following pages and **SHOW ALL WORK. DO NOT USE A CALCULATOR.** There are some helpful math tips included as you work through the pages to provide reminders on different topics.

When you have completed the summer packet, you may use your IXL login to practice some additional math skills (number sense and numeracy).

Please see the list below of possible incentives completing the packet. You will turn the packet into your teacher during the first week of school. You may choose two incentives with the submission of a completed packet.

INCENTIVES:

- Free admittance to a back-to-school event
- Lunch with the principal
- Chick-Fil-A Complimentary Meal Card
- Free HW or CW assignment pass (*See your teacher for when this can be used*)
- Impact Owl Badge & Certificate of Achievement
- Entry into a raffle - For an Impact Academy Shirt

Place Value System Whole Numbers

Write the value of the underlined digit

1) 37,4<u>6</u>2,117 _____

2) 81<u>5</u>,392,005 _____

Write the number using words

3) 45, 872 _____

4) 102, 056 _____

Use < > to compare

5) 104, 430 _____ 104, 292

6) 56, 329 _____ 51, 845

7) Order the numbers from least to greatest 4,801 4,299 4,086 493

_____

Round each number to the nearest tens

8) 72 _____

9) 157_____

10) 3246 _____

Round each number to the nearest hundreds

11) 723 _____

12) 3,782 _____

13) 12, 619 _____

Round each number to the nearest thousand

14) 7, 382 _____

15) 106, 974_____

16) 5,372, 029_____

Operations with Whole Numbers

Find the product of each problem.

1. 326 x 5

2. 18 x 12

3. 1,420 x 25

4. 410 x 215

Find the quotient for each problem

5. 8346 ÷ 3

6. 1,287 ÷ 9

7. 420 ÷ 12

8. 5,345 ÷ 10

9. 4,328 ÷ 8

10. 2,304 ÷ 24

Decimals

1. Write in order from least to greatest 8.71 8.352 8.09 8.6

_____

2. Identify the place value of the underlined digit 4.7<u>2</u>3 _____

3. Identify the place value of the underlined digit 12. 06<u>4</u> _____

Perform the following operations involving decimals.

4. 1.637 + 2.5

5. 25.08 + 4.256

6. 75.4 x 5

7. 1.63 x 2.4

8. 0.005 x 80

9. 0.6 x 1.73

10. 6.18 ÷ 6

11. 34.65 ÷ 9

12. 20.72 ÷ 8

13. 2.16 ÷ 3

Fractions

Write each fraction in simplest form

1. $\frac{6}{10}$ 2. $\frac{5}{15}$ 3. $\frac{8}{12}$ 4. $\frac{33}{121}$

Write each mixed number as an improper fraction

5. $1\frac{1}{8}$ 6. $2\frac{3}{4}$ 7. $5\frac{2}{3}$ 8. $4\frac{4}{7}$

Write each improper fraction as a mixed number

9. $\frac{12}{7}$ 10. $\frac{21}{4}$ 11. $\frac{30}{7}$ 12. $\frac{23}{6}$

Add or subtract. Write you answer in simplest form.

13. $\frac{4}{7} + \frac{2}{7}$ 14. $\frac{3}{8} + \frac{3}{8}$ 15. $\frac{9}{10} - \frac{5}{10}$

Hint don't forget the common denominator for the following problems.

16. $\frac{2}{5} + \frac{3}{10}$ 17. $\frac{1}{4} + \frac{5}{8}$ 18. $3\frac{1}{7} + 2\frac{1}{2}$

19. $\frac{7}{9} - \frac{1}{3}$ 20. $\frac{9}{10} - \frac{2}{5}$ 21. $6\frac{4}{5} - 2\frac{3}{10}$

Fractions Part II

Find the product or quotient. Write your answer in simplest form.

22. $\frac{5}{6} \times \frac{1}{5}$

23. $\frac{4}{9} \times \frac{9}{10}$

24. $1\frac{1}{3} \times 2\frac{3}{4}$

Hint ....when you divide fractions you must find the **reciprocal (the inverse of the second fraction)**

25. $\frac{7}{10} \div \frac{1}{5}$

26. $\frac{11}{12} \div \frac{2}{9}$

27. $3\frac{1}{2} \div 1\frac{1}{8}$

Number Theory

1. List all factors of 48 _____
2. List the first five multiples of 6 _____
3. Find the GCF (greatest common factor) of 16 and 24 _____
4. Find the LCM (least common multiple) of 8 and 10 _____
5. Which of the following numbers is prime? 6, 10, 13, 18 _____
6. Write the rule for the pattern 6, 16 , 26, 36 , ...

   _____
7. Write the rule for the pattern 5, 21, 85, 341,.....

   _____

PreAlgebra Concepts

Write the following word phrases using numbers and mathematical symbols

1. Twenty added to twelve_____

2. The difference of eight and four_____

3. The product of nine and four_____

4. The quotient of ten and five_____

Simplify the following.

5. $3 + 2 \times 8 \div 4$

6. $48 \div (10 - 4) + 2$

Unit Conversion

7. 10 days = _____hours

8. 420 min = _____hours

9. 7 feet = _____inches

10. 12 yards = _____feet

11. 200 cm = _____m

12. 3 Liters = _____ml

13. 5 lb = _____oz

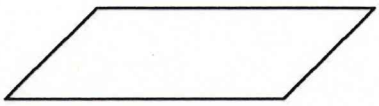
14. 8 cups = _____pt

Geometry

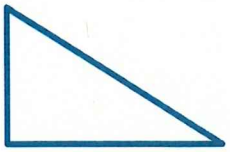
Identify the following shapes or three dimensional figures.

1. 

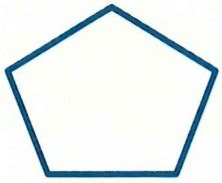
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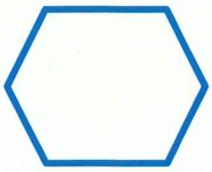
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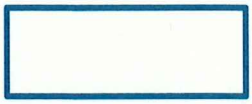
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4. 

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5. 

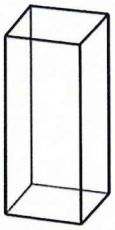
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6. 

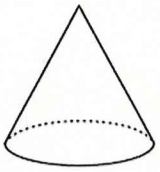
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7. 

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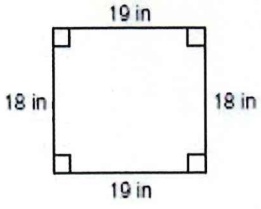
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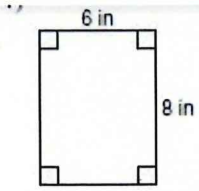
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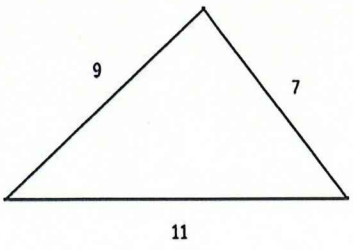
9. 

_____

Find the Perimeter of each shape. All polygons are in inches.

10. 

11. 

12. 

Geometry Part II

Formulas



Rectangle A = lw



Square A = lw



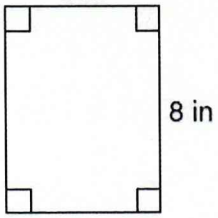
Parallelogram A =bh



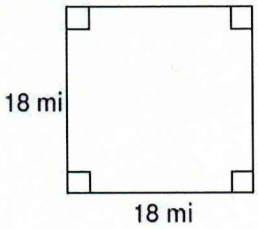
Triangle $A = \frac{bh}{2}$

Find the Area of Each Figure

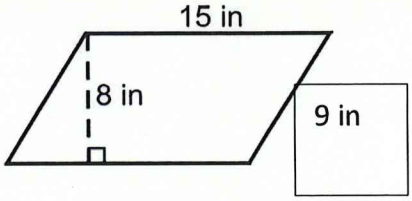
1.



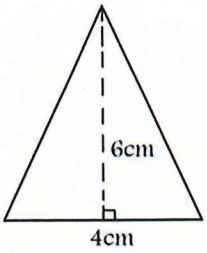
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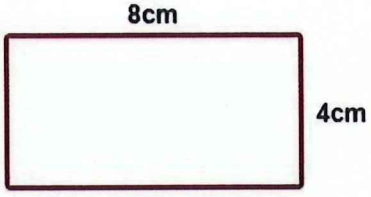
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5.

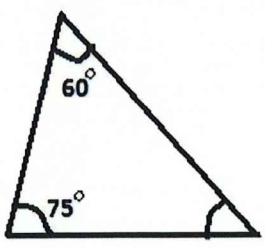


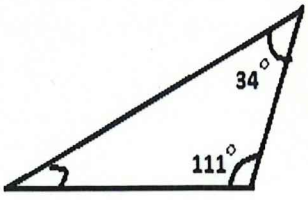
6.



All angles in a triangle add to 180°

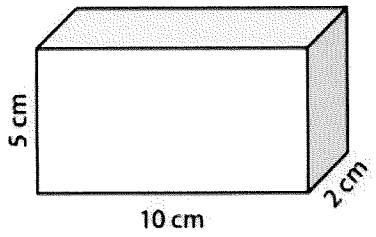
Find the unknown angle measure in each triangle.



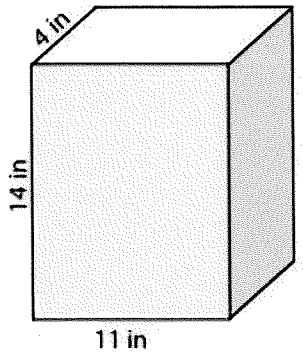


GEOMETRY Part III

Volume Formula Rectangular Prism $V = lwh$



Volume =_____

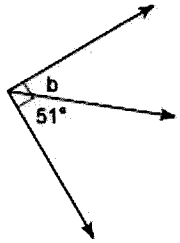


Volume= _____

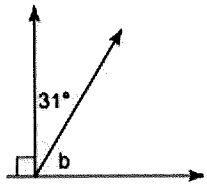
Complementary Angles add to 90°. Find the missing angle measure in each drawing below.

Find the measure of angle b.

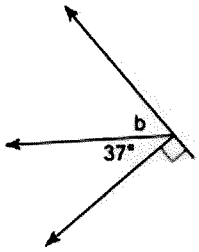
1)



2)



3)



4)

