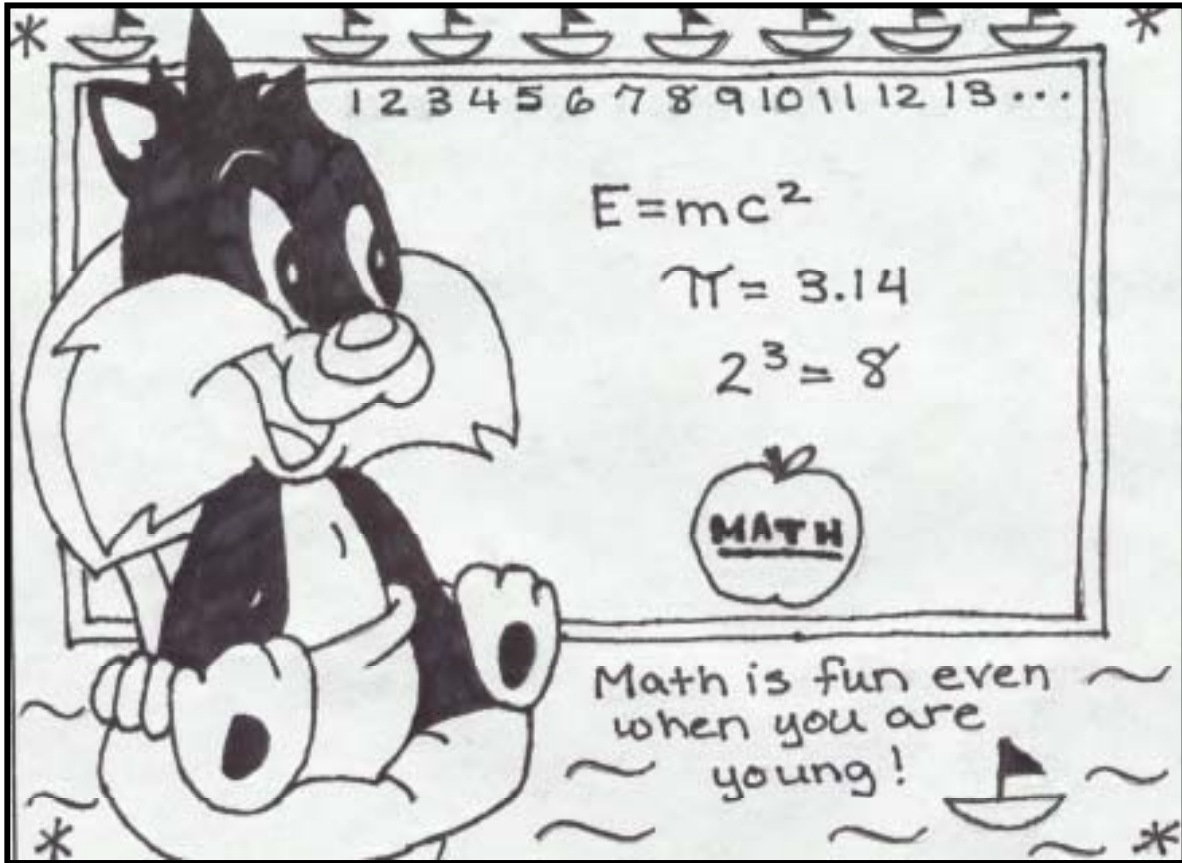


# PARENT PACKET

## Sail into Summer with Math!



### For Students Entering Geometry

This summer math booklet was developed to provide students in kindergarten through the eighth grade an opportunity to review grade level math objectives and to improve math performance.

## Geometry Summer Mathematics Packet Answer Key

### Answers to Squares, Square Roots, and Laws of Exp. [Pg. 1]

- |              |          |            |                     |                     |              |          |
|--------------|----------|------------|---------------------|---------------------|--------------|----------|
| 1. 16        | 2. -108  | 3. 125     | 4. 3                | 5. 75               | 6. 4         | 7. $5^6$ |
| 8. $12^{12}$ | 9. $5^5$ | 10. $10^8$ | 11. $\frac{1}{7^3}$ | 12. $\frac{1}{3^4}$ | 13. $3^{15}$ | 14. 1    |

### Answers to Simplifying Radicals [Pg. 2]

- |                          |                |  |                   |                |
|--------------------------|----------------|--|-------------------|----------------|
| 1. $\frac{\sqrt{15}}{9}$ | 2. $7\sqrt{6}$ | 3. $14\sqrt{3}$                                | 4. $4+2\sqrt{10}$ | 5. $3\sqrt{7}$ |
| 6. $\frac{3\sqrt{3}}{7}$ | 7. 0           | 8. $12\sqrt{6}$                                | 9. $6\sqrt{2}$    | 10. 75         |
| 11. $13\sqrt{2}$         | 12. 45         | 13. Nina - can demonstrate through calculator. |                   |                |

### Answers to Solving Equations I [Pg. 3]

- |              |                         |                        |               |                |
|--------------|-------------------------|------------------------|---------------|----------------|
| 1. $t = -32$ | 2. $m = 10$             | 3. $r = 3.7$           | 4. $x = -39$  | 5. $g = -1.5$  |
| 6. $y = -24$ | 7. $x = 60$             | 8. $t = 28\frac{2}{3}$ | 9. $t = -384$ | 10. $t = -7.5$ |
| 11. $r = 19$ | 12. $x = 11\frac{1}{3}$ |                        |               |                |
13. A paragraph that describes how to solve any two step equation is the expectation.

### Answers to Solving Equations II [Pg. 4]

- |              |                        |                       |                |
|--------------|------------------------|-----------------------|----------------|
| 1. $r = 23$  | 2. $t = 11$            | 3. $x = 1\frac{1}{3}$ | 4. No Solution |
| 5. $x = 1.4$ | 6. $p = 1\frac{3}{13}$ | 7. D                  |                |

8. Option One is  $40 \cdot 12 = \$480$ , while Option Two is  $400 + (400)(0.15)(1) = \$460$ . Option Two would cost Ted less money.

### Answers to Inequalities [Pg. 5]

- $x > 2\frac{1}{4}$  : number line should have open circle at  $2\frac{1}{4}$  and extend to the right (positive values)
- $t \leq 3$  : number line should have closed circle at 3 and line extends to the left (into negative values)
- $x \geq 6$  : number line should have a closed circle at 6 and extend to the right.
- $x < -8$  : number line should have an open circle at  $-8$  and extend to the left

**Answers to Pythagorean Theorem [Pg. 6]**

1.  $x = 4$  m      2. About 5.66 ft      3.  $x = 15$  cm      4.  $x = 13$  ft  
5. 25 in      6. About 14.14 m      7. About 47.37 ft

**Answers to Irregular Areas [Pg. 7]**

1. 23 square inches  
2. a. 353.04 square m      b. 45.76 square ft      c. 92 square m      d. 9.12 sq cm

**Answers to Volume and Surface Area [Pg. 8]**

1.  $V = 384$  m<sup>3</sup>, SA = 352 m<sup>2</sup>      2.  $V = 1356.48$  ft<sup>3</sup>, SA = 678.24 ft<sup>2</sup>  
3.  $V = 2000$  in<sup>3</sup>, SA = 1000 in<sup>2</sup>      4.  $V = 576$  ft<sup>3</sup>, SA = 532 ft<sup>2</sup>

**Answers to Venn Diagrams [Pg. 9]**

1. 8 people      2. 2 fans cheered for neither  
3. a. 18 sixth graders      b. 143 sixth graders      c. 144 sixth graders

**Answers to Constructions I [Pg. 10]**

Check drawings on child's paper to see if objective was met (copied or bisected)

**Answers to Constructions II [Pg. 11]**

Check drawings on child's paper to see if objective was met  
(copied, perpendicular, or bisected)

**Answers to Angle Relationships [Pg. 12]**

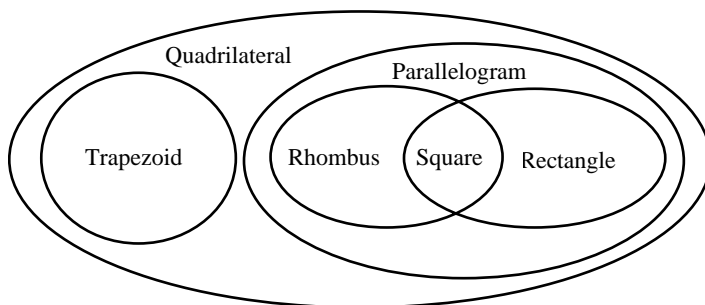
1. 54°      2. 80°      3. 46°      4. 54°      5. 80°      6. 46°  
7. 126°      8. 54°      9. 126°      10. 134°      11. 46°      12. 134°

**Problems Involving Shapes [Pg. 13]**

1. 105 degrees
2. 120 degrees, 135 degrees
3. 5 diagonals, 20 diagonals, 35 diagonals
4. a. 54 degrees                      b. 58 degrees                      c. 132 degrees                      d. 65 degrees

**Answers to Properties of Polygons [Pg. 14]**

1. Parallelogram
2. Trapezoid
3. Rhombus or Square
4. Rectangle or Square
5. Square
6. Quadrilateral
7. Parallelogram
- 8.



**Answers to Circles [Pg. 15]**

1.  $C = 22.608$  m,  $A = 40.6944$  sq m
2.  $C = 40.192$  ft,  $A = 128.6144$  sq ft
3.  $C = 15.7$  m,  $A = 19.625$  sq m
4.  $C = 47.1$  cm,  $A = 176.625$  sq cm

**Answers to Similarity [Pg. 16]**

1. No, because  $\frac{5}{7}$  does not equal  $\frac{7}{9}$
2. About 11 feet.

**Answers to Distance and Midpoint Formulas [Pg. 17]**

1. a. 14                      b.  $\sqrt{89} \approx 9.43$                       c.  $\sqrt{68} \approx 8.25$                       d.  $\sqrt{185} \approx 13.6$
2. a. (-1, 7)                      b. (-0.5, -2)                      c. (-2, -5)                      d. (4, 0.5)

**Answers to Factoring Quadratic Equations [Pg. 18]**

1.  $a = -6$  or  $a = 5$
2.  $b = -4$  or  $b = -3$
3.  $m = 4$  or  $m = 10$
4.  $s = -15$  or  $s = 12$
5.  $a = -3$  or  $a = -\frac{1}{7}$
6.  $x = -1.5$  or  $x = 4$
7.  $n = -2.5$  or  $n = 3.5$
8.  $y = 4$  or  $y = 9$
9.  $m = -2.5$  or  $m = -\frac{2}{3}$
10.  $x = -3$  or  $x = 5$
11.  $x = -1.5$  or  $x = 1$
12.  $x = -\frac{2}{3}$  or  $x = 2$

**Answers to Solving Systems of Equations [Pg. 19]**

1. (5, 3)
2. (-1, 7)
3. (6, -1)
4. (-5, -1)
5. \$12.00 for each CD and \$8.00 for each cassette
6. There will be 5 essay questions on the test.

**Answers to Probability [Pg. 20]**

1. 1 out of 12
2. 1 out of 20
3. a.  $\frac{1}{11}$       b.  $\frac{1}{11}$       c.  $\frac{2}{11}$       d.  $\frac{1}{11}$       e.  $\frac{2}{11}$       f.  $\frac{1}{11}$
4. a.  $\frac{1}{26}$       b.  $\frac{1}{2}$       c.  $\frac{1}{52}$       d.  $\frac{4}{13}$