

Montgomery Blair High School

Honors Geometry Summer Review Packet

Name: _____

The problems in this packet are designed to help you review topics from previous mathematics courses that are important to your success in Geometry. Please try to do each problem and show the work that goes with that answer. Bring the packet with you to your Geometry class on the first day of school. This assignment will be evaluated as a study skill.

All work should be completed and ready to turn in on the first day of school.

Enjoy your summer. We are looking forward to seeing you in the fall.

Answer all questions on separate paper. SHOW ALL WORK

I. Fill in the blank.

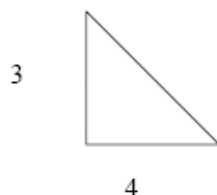
1. 159 cm = _____ mm 2. 3.2 m = _____ km 3. 18 inches = _____ feet
 4. _____ feet = 4 miles 5. 3.6 yards = _____ feet 6. 0.6 feet = _____ inches

II. Use the Pythagorean Theorem, $c^2 = a^2 + b^2$, to find the length of the missing side for each of the following:

1.

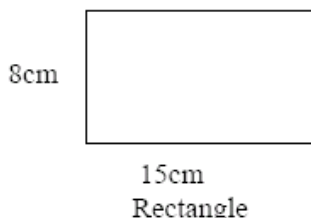


2.

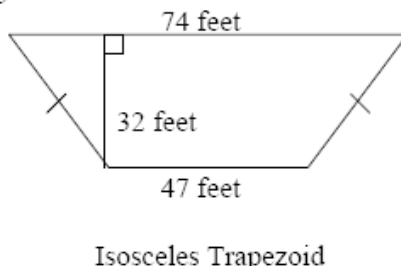


III. Find the perimeter and area of each of the following.

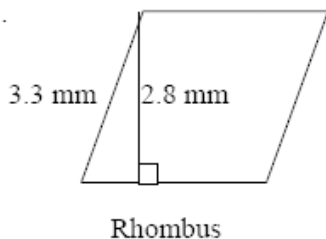
1.



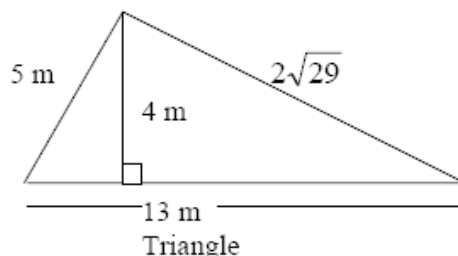
2.



3.



4.



IV. Determine the slope of the line through each pair of points.

1. (5, 1) and (2, 7) 2. (5, 3) and (-2, 3)
 3. $(-\frac{1}{2}, -2)$ and $(-\frac{3}{2}, 1)$ 4. (2, -4) and (2, 6)

V. Find the indicated measure of each circle.

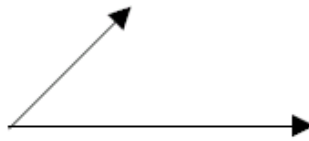
1. If $r = 5.2$ cm, find the area and the circumference in terms of π .
 2. If the Circumference = 6π m., find the radius and the area of the circle in terms of π .
 3. If the Area = 14π cm², find the circumference and diameter in terms of π .

VI. Construct each of the following *on unlined paper* using compass and straightedge only.

1. Copy and bisect the segment.



2. Copy and bisect the angle.



3. Construct a perpendicular to the line through the point on the line.



4. Construct a perpendicular to the line through the point not on the line.



VII. Simplify each of the following:

1. $\sqrt{36}$

2. $\sqrt{8}$

3. $4\sqrt{27}$

4. $\sqrt{\frac{1}{5}}$

5. $\frac{6}{\sqrt{3}}$

6. $(2\sqrt{3})^2$

VIII. Solve each of the following.

1. $\frac{x}{5} = \frac{12}{25}$

2. $\frac{6}{x+3} = \frac{4}{2x-7}$

3. $\frac{2}{3}x + 4 = 6$

4. $2(x+1) - 3 = 4$

5. $\frac{3}{x+1} = \frac{x}{4}$

6. $\frac{5x}{8} = \frac{6x-7}{3}$

7. $\frac{1}{5}x - 3 = 2$

8. $\frac{2}{x} = 7$

IX. Multiply each of the following.

1. $(x-9)(x+8)$

2. $(x+16)(x+4)$

3. $(2x-1)(x+5)$

4. $(x-8)^2$

X. Factor and solve each of the following:

1. $x^2 - x - 72 = 0$

2. $2x^2 + 9x - 5 = 0$

3. $x^2 - 16x + 64 = 0$

4. $x^2 - 64 = 0$

5. $4x^2 - 36x = -72$

XI. Solve for x using the Quadratic Formula.

1. $x^2 + 3x - 5 = 0$

2. $-2x^2 - 4x + 7 = 0$