MPM2D
Mrs. Kerr
Test #2 Review

Name: _____

Date: _____

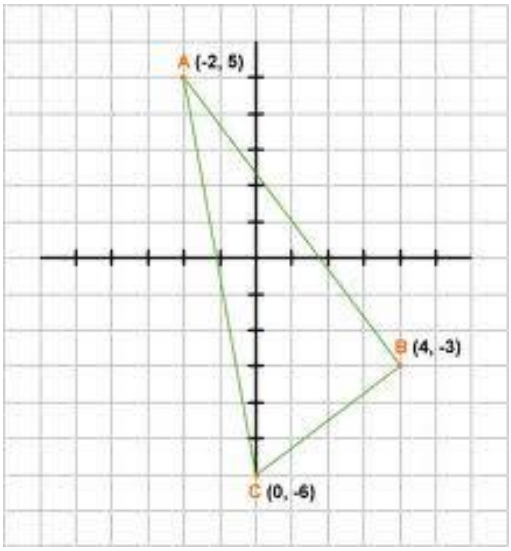
Complete this review in addition to the following questions from the textbook:
Page 94 #1-14, Page 124 #1-16, 18, 20-23 (do 22 two ways)

Instructions:
Complete the review questions on a separate sheet of lined paper.
Please show all of your work for each question.
Check your answers at the back to track your progress.

Part A: Knowledge and Understanding

1. The diameter of a circle has endpoints F(11, -5) and G(-4, 6). Find the coordinates of the centre of the circle.

2. Find the perimeter of the triangle below. Round to the nearest hundredth.



3. For the circle $x^2 + y^2 = 357.21$,

a) state the centre.
b) state the radius.
c) state the diameter.
d) state the **coordinates** of the x-intercepts.
e) state the **coordinates** of the y-intercepts.

4. The coordinates of ΔWXY are: W(-1, 10), X(7, 0) and Y(0, 19). Find the equation of the perpendicular bisector of WX. Do not convert any fractions to decimals.

5. The coordinates of ΔRSQ are: R(12, 6), S(3, 5) and Q(-2, 22). Find the equation of the altitude from vertex Q. Do not convert any fractions to decimals.

6. The coordinates of ΔKLM are: K(-6, 9), L(12, 13) and M(4, 3). Find the equation of the median from vertex L. Do not convert any fractions to decimals.

7. The equation of the altitude from vertex E of ΔEFG is $3x - 2y - 52 = 0$. The equation of the altitude from vertex F of ΔEFG is $-6x + 3y + 90 = 0$. Find the coordinates of the orthocentre of ΔEFG.

Part B: Application

1. The midpoint of QR is (5, -7). If Q is (-3, 5), find R.

2. This question is VERY SIMILAR to a previously assigned homework question. Make sure you can calculate the radius of a circle given the equation of the circle and then find the circumference.

3. This question is VERY SIMILAR to a previously assigned homework question. Make sure you can prove a triangle is a right triangle.

4. Show that the points A(1, 1), B(6, 2), C(8, 5) and D(3, 4) form a parallelogram.

Note: Make sure you know what midsegments are and how to draw them in a diagram.

Communication

- You should study your notes to prepare for the three short answer questions in this section of the test.
- You will be required to answer in full sentences.
- Marks will be given for content, clarity and the demonstration of strong written communication skills.
- Include terminology we learned in this unit, as well as plenty of detail and examples to support your answer.

1. The first question is a multiple choice question. Study the definitions of median, altitude and perpendicular bisector. Also study the definitions of centroid, orthocentre and circumcentre.

2. In the second question you are required to explain a process. That's all I am going to tell you!

3. In the third question you are required to explain the similarities and differences between two different types of quadrilaterals.

BOTTOM LINE: STUDY YOUR NOTES!

Thinking and Inquiry … SURPRISE!

This section is not hard you just have to read the two questions carefully!

Check Your Answers Here:

Part A: Knowledge and Understanding

1. $(\frac{7}{2}, \frac{1}{2})$

2. P = 26.18 units

3a) (0, 0)
b) 18.9 units
c) 37.8 units
d) (18.9, 0) (-18.9, 0)
e) (0, 18.9) (0, -18.9)

4. $y = \frac{4}{5}x + \frac{13}{5}$

5. y = -9x + 4

6. $y = \frac{7}{13}x + \frac{85}{13}$

7. (8, -14)

Part B: Application

1. (13, -19)

4. Since $m_{AB} = m_{CD} = \frac{1}{5}$, and $m_{BC} = m_{AD} = \frac{3}{2}$, therefore the quadrilateral is a parallelogram.