

Math 206 - Test 3

April 24, 2012

Name _____

Score _____

Show all work to receive full credit. Supply explanations where necessary.

1. (5 points) A stay in a U.S. emergency room has an average length of 222 minutes with a standard deviation of 27 minutes. Assuming stay lengths are normally distributed, about how many patients in a group of 700 will have stays that last between 195 minutes and 249 minutes?

2. (5 points) Use a straightedge to sketch a random acute, scalene triangle. Then use the SSS property to construct (with compass and straightedge only) a congruent triangle.

3. (5 points) An angle measures $53^{\circ}40'25''$. Find the measure of its complement. Write your answer in degrees in decimal form, rounding to the nearest thousandth.
4. (5 points) Roughly sketch each of the following or state that it is not possible.
- (a) A closed curve that is not simple
 - (b) Three non-coplanar points
 - (c) Two adjacent angles where one is acute and one is obtuse
 - (d) A pair of skew lines
 - (e) A concave quadrilateral

5. (5 points) Finish each statement below by using **every** appropriate word (or abbreviation) from this list:

RT—right triangle	AT—acute triangle	OT—obtuse triangle	ST—scalene triangle
IT—isosceles triangle	ET—equilateral triangle	T—trapezoid	K—kite
P—parallelogram	R—rectangle	Rh—rhombus	S—square

(a) An example of a quadrilateral that is not necessarily a parallelogram is a

(b) A square is also a

(c) An example of a parallelogram with a right angle is

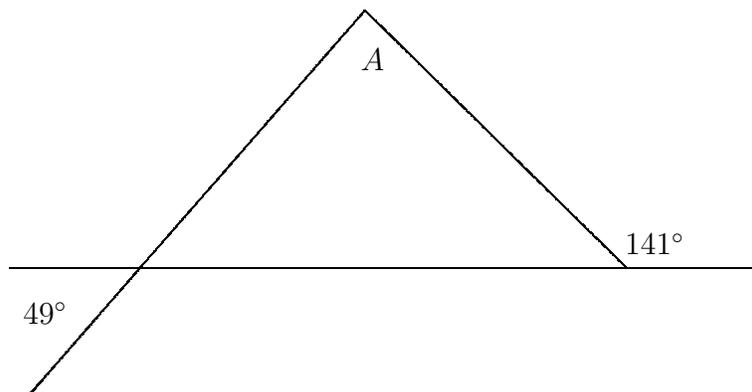
(d) A three-sided polygon with angles that measure 45° , 90° , and 45° is a

(e) An example of a kite that is also a parallelogram is

6. (5 points) Adult male wombats in Narawntapu National Park have a mean weight 35.6 kg with a standard deviation of 2.8 kg. If these weights are normally distributed, about what percent of the park's adult male wombats weigh less than 34 kg?

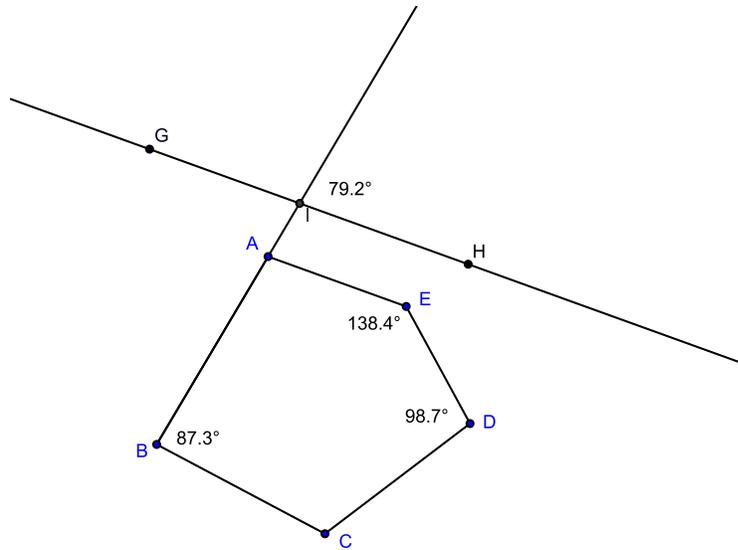
7. (5 points) Use your protractor to sketch an angle that measures 42° . Then use your compass and straightedge to construct a congruent angle.

8. (3 points) Find the measure of the angle at A . Carefully explain your reasoning.



9. (2 points) What is the measure of each interior angle of a regular nonagon?

10. (5 points) In the following figure, $\overline{AE} \parallel \overline{GH}$. Find the measure of $\angle BCD$.



11. (5 points) Fill in a word that correctly completes each sentence.

- (a) A simple, closed, polygonal curve is called a _____.
- (b) When two lines intersect, pairs of congruent angles, called _____ angles, are formed.
- (c) Two angles that share a common side and have non-overlapping interiors are called _____ angles.
- (d) A _____ is a simple, closed surface made up entirely of polygonal regions called faces.
- (e) Two angles are supplementary if together they make a _____ angle.