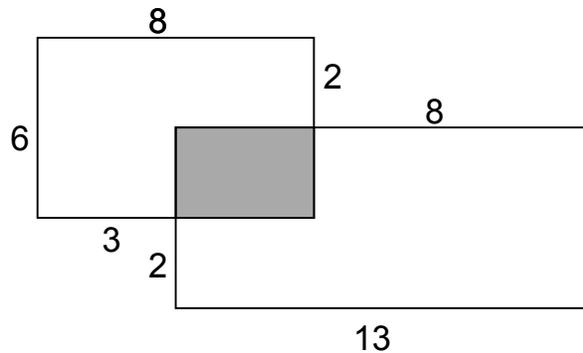
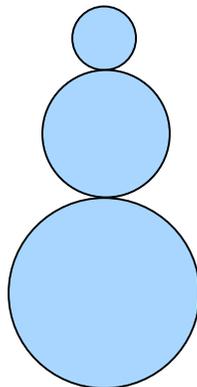


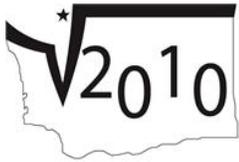
Instructions: Bubble in your answers on the answer sheet. Be sure to erase all mistakes completely. You do not need to bubble in leading zeros – the answer of “7” does not need to be answered as “007”. If your answer is a fraction like $\frac{3}{16}$, bubble in 316. For decimal answers like 3.14, bubble in 314.

1. **2 points:** What is the area of the unshaded region in the following figure?



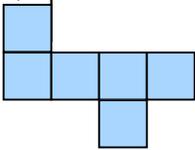
2. **2 points:** If the degree measures of the interior angles of a pentagon are $x+2$, $3x-10$, $2x+20$, $x-20$, and $2x+8$, what is the degree measure of the largest angle?
3. **2 points:** How many unique diagonals can be drawn in a regular decagon?
4. **3 points:** A group of toy makers want to wrap the world's biggest toy block with wrapping paper. The block has dimensions of eight feet by six feet by twelve feet. How much wrapping paper, in square feet, will they need in order to wrap the entire toy block? Assume there is no overlap in wrapping paper.
5. **3 points:** In a drawing of her snowman creation in the backyard, Elsie drew three circles of radii 8, 6, and 4 as seen below. If she wanted to draw a line from the ear, located at the farthest right point of the top circle to the farthest left point on the bottom circle, how long of a line would she be drawing? **Express your answer to the nearest unit.**



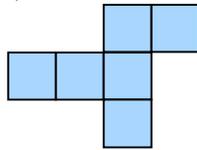


6. **3 points:** The owners of a neighborhood pool wanted to build a safe rubber walkway around the pool that is one foot wide. If the pool is 30 feet by 20 feet, what will the area, in square feet, of the rubber walkway be?
7. **3 points:** Which of the following diagrams cannot be folded into a cube?

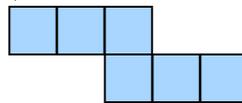
a)



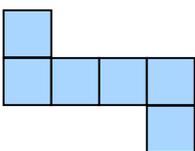
b)



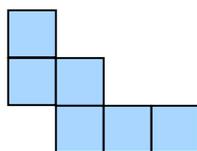
c)



d)



e)



8. **4 points:** If a triangle must have a non-zero area, how many integral lengths are possible for the third side of a triangle whose other two sides have lengths of 3 and 11?
9. **4 points:** Mrs. Bermuda gives you two mystery triangles and tells you the following information about them: Triangle A has one side length of six units and an area of 48 square units. Triangle B is similar to triangle A, and has an area of 12 square units. What is the length of the corresponding side of triangle B?
10. **4 points:** Suppose a swimming pool is 12.5 meters in length, 25 meters wide, and three meters deep. If one tank of water will fill one cubic meter, how many tanks of water would be needed to fill the pool 80% full?