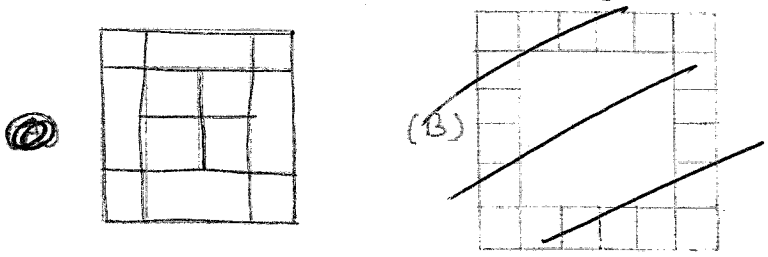
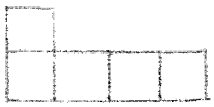
Homework

Name: _____

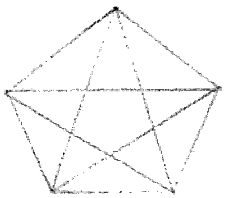
1. What is the total number of squares in ~~each~~ the figure?



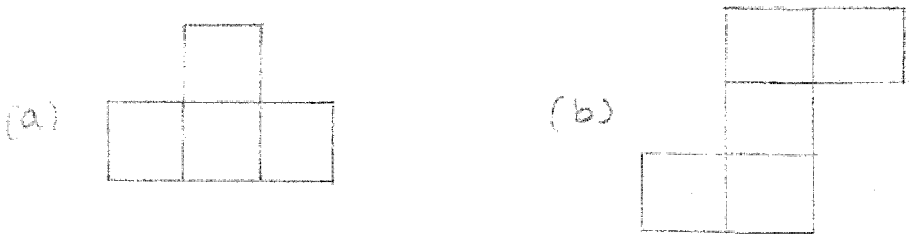
2. What is the total number of rectangles in the following figure?



3. What is the total number of triangles in the following figure?



4. Each of the small boxes in the following figure is a square. All the squares are the same size. If the perimeter of the figure in "a" is 30, what is the perimeter in figure "b"?



5. One wheel of a tractor turns 240 times in a one-mile trip. What is its approximate radius?

Aug 6 2009

Math Olympiad Beginner
Homework 6

Name _____

6. Two trains leave from the same station at 10:00 am and move in the same direction along parallel tracks. One train averages 72 km/hr and other averages 108 kn/hr. How far apart will the trains be at 1:05 pm of the same day?

7. Two passenger trains traveling in opposite directions meet and pass each other. Each train is 1/12 mile long and is traveling at 50 mph. How many **seconds** after the front parts of the trains meet will their rear parts pass each other?

8. A man left his home and drove along a certain road at 48 km/hr. One hour later his son left the same home and drove along the same road in the same direction at 72 km/hr. How many **hours** does the son need to overtake his father?

9. A passenger train and freight train leave at the same time from stations that are 270 km apart. The trains are traveling towards each other, and the rate of the passenger train is twice the rate of the freight train. If the trains pass each other in three hours, what is the rate of **slow** train?

10. Suppose that a printer is using an old-style printing press and needs one piece of type for each digit in the page number of a book. A certain book contains pages numbered from 1 to 375. How many 4s will the printer need?

11. One section of a certain book contains six pages. The sum of all the page numbers in this section is 513. What is the lowest page numbers?

12. A train is moving at the rate of 1 mile in 1 minute and 20 seconds. If the train continues at this rate, how far will it travel in one hour?

13. A train traveling at 30 miles per hour reaches a tunnel which is 9 times as long as the train. If the train takes 2 minutes to completely clear the tunnel, how long is the train in feet? (1mile = 5280 ft)

14. How many even numbers between 1 and 101 are multiples of 3?