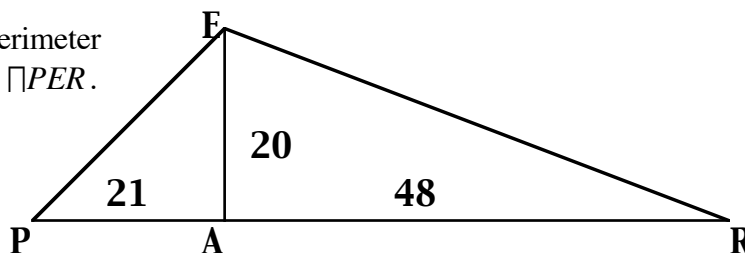




7. What is the smallest number boards 2 units || 3 units || 8 units that can be stacked into the shape of a cube?

- a. 576      b. 288      c. 48      d. 24      e. 12

8. Which choice is nearest to the perimeter of  $\triangle PER$ ?  $\overline{EA}$  is an altitude of  $\triangle PER$ .

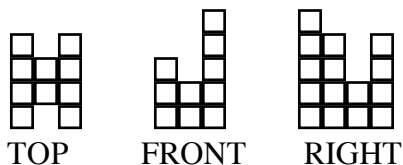


- a. 100      b. 125      c. 150      d. 175      e. 200

9. If  $2^a 3^b 5^c = 360,000$ , then  $a + b + c = ?$

- a. 12      b. 10      c. 9      d. 8      e. 12000

10. Three views are given of the same block structure. The highest part of the structure is in which corner?



- a. left back      b. right back  
c. left front      d. right front

*Problems 11-30 will count toward your individual score but not your team score.*

11. A 72-inch rope is cut into 5 pieces but one piece is  $\frac{4}{5}$  of the others. How many inches long are the longer pieces?

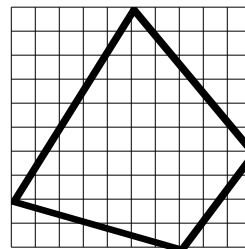
12. What is  $0.\overline{24}$  as a reduced common fraction?

13. In 12 minutes of swimming 80 calories are burned. At this rate how many calories are burned on a half-hour swim?

14. How many differently shaped rectangles with whole number sides could have an area of 360?

15. Coyote Car Rental charges \$24 for a single day rental and \$12 per day for additional days. If someone rents a car for a week, s/he gets one of the additional days free. Coyote also charges \$0.05 per mile if the car is not returned in the city where it was originally rented. It is 1300 miles from Seattle to Denver. What does it cost to take one of Coyote's cars from Seattle to Denver and leave it there if the trip lasts 7 days?

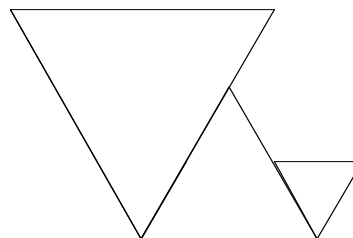
16. The area of one small square is 1, and the area of the largest square is 100. What is the area of the quadrilateral region enclosed by heavier lines?



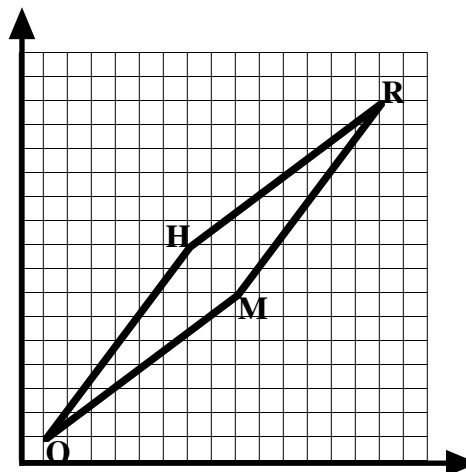
17. The approximate radius of the meteorite that caused the extinction of the dinosaurs 65 million years ago was 3.1 miles. Assuming the meteorite was spherical, to the nearest cubic mile what was its volume?
18. A speed of 60 miles per hour is equivalent to 88 feet per second. If Boris traveled 75 miles in 3 hours and 45 minutes, to the nearest tenth what was his average speed in feet per second?

19. Evaluate:  $\frac{1}{3 \cdot \frac{8}{4+2}} \square \frac{5 \square 6}{9 \square 7}$

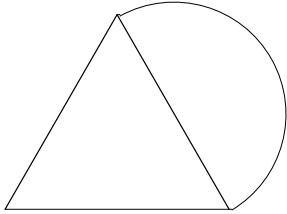
20. Three equilateral triangles are pictured. The smallest has side lengths that are  $\frac{1}{3}$  of the largest, and the other triangle has side lengths that are  $\frac{2}{3}$  of the largest. If the largest triangle has side lengths of 12, what is the perimeter of the entire figure?



21. In the previous problem the area of the smallest triangle is  $4\sqrt{3}$ . What is the area of the entire figure?
22. A badger weighs the same as 4 marmots, and 3 marmots weigh the same as 5 weasels. So that we can replace all six of the stinking badgers, how many weasels weigh the same as 6 badgers?
23. What is the area of rhombus *RHOM*? [Assume that each small square is one unit on a side.]



24. If  $RHOM$  is rotated  $90^\circ$  clockwise around point  $R$ , what will be the new coordinates of point  $O$ ?
25. If  $52a + 68b = 156$ , then what does  $39a + 51b$  equal?
26. If 75 cents added to Kamal's hourly wage increases it by 15%, what was his original hourly wage?
27. Using a standard 52 card deck, what is the probability of drawing a queen or a diamond or a club? [Answer as a reduced fraction.]
28. The combined perimeter of 2 different sized squares is 1200. If the area of the larger square is 16 times the smaller, what is the area of the smaller square?
29. If the area of the semicircle is  $\frac{25\pi}{2}$ , to the nearest tenth what is the perimeter of the entire figure?



30. In the first 25% of the season the Crows won 25% of their games. To the nearest tenth of a percent, what percentage of their remaining games must they win to have won at least 60% of their games by season's end.