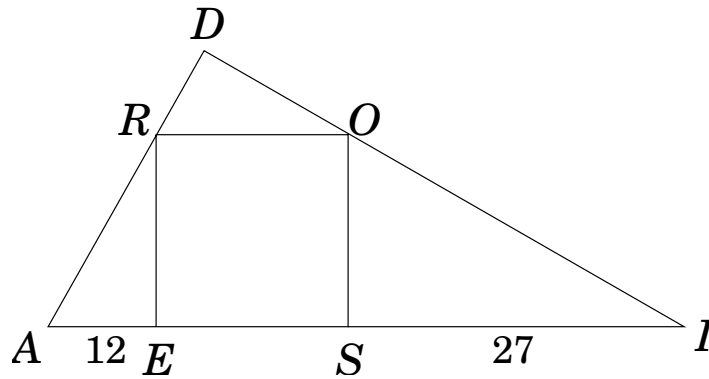# Math 149

Problems 03/19/09
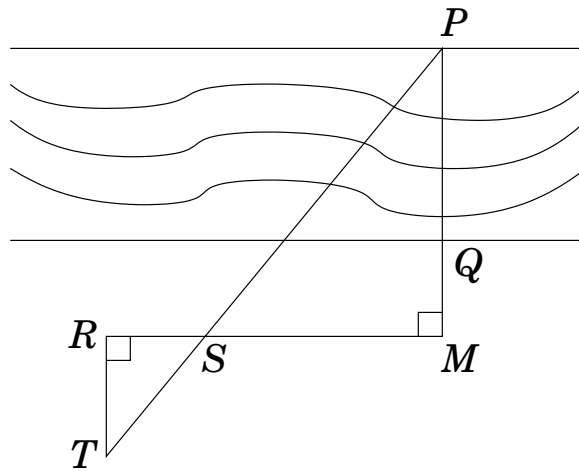
Proportional Reasoning, Ratios, and Rates

1. (MH 9-10 2003) Find the ratio of A to B if $\frac{2B+6A}{3A-B} = 10$.

    (a) 1:3

    (b) 3:1

    (c) 1:2

    (d) none of the above

2. (MH 9-10 2006) If 26 blops weigh as much as 4 glorps and 2 gloops, while 8 blops and 2 glorps have the same weight as 2 gloops, how many blops have the same weigh as 3 gloops?

    (a) 10

    (b) 12

    (c) 21

    (d) None of the above

3. (MH 11-12 2006) A boat travels 145 km downstream and it takes it the same time to travel 95 km upstream. The speed of the current is 5 km/h. Determine the speed of the boat in still water.

    (a) 22 km/h

    (b) 23 km/h

    (c) 24 km/h

    (d) 25 km/h

    (e) None of the above

4. (MH 9-10 2006) If 7 dogs can eat 7 bowls of dog food in 7 minutes, how long will it take 14 dogs to eat 14 bowls of dog food?

    (a) 28 minutes

    (b) 21 minutes

    (c) 14 minutes

    (d) 7 minutes

5. (MH 11-12 2003) It takes 5 hr 20 min for Bill to type some text. It takes 4 hr 40 min for John to type the same text. One day they typed 90 pages together. How many pages did Bill type and how many pages did John type on that day?

    (a) 42 and 48 pages

    (b) 40 and 50 pages

    (c) 30 and 60 pages

    (d) 38 and 52 pages

    (e) 44 and 46 pages

6. (MH 9-10 2003) Find the area of the square *ROSE* which is inscribed in right triangle *ADI*, if $AE = 12$ and $SI = 27$.

   (a) 729

   (b) 144

   (c) 324

   (d) none of the above

7. (MH 9-10 2006) Suppose you wish to measure the distance across the river shown below. You find that the distance *SM* is 35 feet, *RS* is 8 feet, *RT* is 16 feet, and *QM* is 10 feet. How far is it across the river?

   (a) 40 feet

   (b) 50 feet

   (c) 70 feet

   (d) 60 feet