

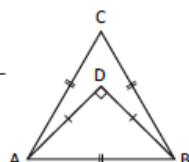
# Workout 7



201. 16 cm A rectangular prism has a volume of  $720 \text{ cm}^3$  and a surface area of  $666 \text{ cm}^2$ . If the lengths of all its edges are integers, what is the length of the longest edge?

202. 96 Marco's average score for all 14 quizzes this semester was 81. If Marco had an average score of 75 for his first 10 quizzes this semester, what was the average score for his last 4 quizzes?

203. .73 Point D is located in the interior of  $\triangle ABC$ , as shown. What is the ratio of the area of quadrilateral ACBD to the area of  $\triangle ABD$ ? Express your answer as a decimal to the nearest hundredth.




204. (4, 6) The endpoints of a diameter of a circle are  $(-3, -2)$  and  $(11, -10)$ . What are the coordinates of the center of the circle?

205. 16 Letters have been substituted for digits in the equation  $ATE + AT = ROYS$ . Each distinct letter represents a unique digit. No two distinct letters represent the same digit. If T is odd, S is prime and  $E > T$ , what is the value of the sum  $A + T + E + O$ ?

206. 80 ninth-graders In a survey of ninth-graders, 8 students reported that they have attempted a marathon. Of those 8 students, 2 reported that they actually completed a marathon. If 2.5% of the ninth-graders surveyed completed a marathon, how many ninth-graders were surveyed?



207.  $\frac{1}{5}$  The line  $y = kx$  intersects the line that passes through points  $A(5, 0)$  and  $B(0, 2)$  at a point P such that  $AP:PB = 1:2$ . What is the value of  $k$ ? Express your answer as a common fraction.

208.  $2\pi r$  units  The shape shown is formed by a circle with radius of length  $r$  units and two smaller semicircular regions, each with diameter of length  $r$  units. What is the perimeter of the shaded portion of the large circle? Express your answer in terms of  $r$  and  $\pi$ .

209. \$90 At the first store Arlene visited, she spent 40% of her money plus \$4. At the second store she spent 50% of her remaining money plus \$5. At the third store Arlene spent 60% of her remaining money plus \$6. When Arlene finished shopping at the three stores, she had \$2 left over. How many dollars did she have when she started shopping?

210. 6 days Judith received a gift on the first day of the year and every sixth day after that. Mort received a gift on the fourth day of the year and every fifth day after that. Kale received a gift on the ninth day of the year and every fourth day after that. On how many days during the year did all three receive a gift on the same day?