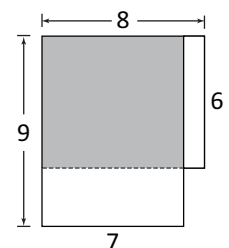




# Warm-Up 11

151. \_\_\_\_\_ cm The area of an equilateral triangle is  $16\sqrt{3}$  cm<sup>2</sup>. What is its perimeter?
152. \_\_\_\_\_ mm The ratio of the height of a parallelogram to its base is 3:5. If the area of the parallelogram is 135 mm<sup>2</sup>, what is the length of its base?
153. \_\_\_\_\_ Triangle EFG has side lengths  $x - 1$ ,  $x + 1$  and  $x + 3$ . For what value of  $x$  is  $\triangle EFG$  a right triangle?
154. \_\_\_\_\_ What is the sum of the coordinates of the  $x$ - and  $y$ -intercepts of  $3x - 2y = 15$ ? Express your answer as a mixed number.
155. \_\_\_\_\_ A larger cube is created from 64 white unit cubes. Two opposite faces of that larger cube are painted black, and the remaining four faces are painted red. The unit cubes then are placed in a bag. If one unit cube is drawn at random, what is the probability that it has two red faces and one black face? Express your answer as a common fraction.
156. \_\_\_\_\_ Megan rolls two standard dice, hoping for double sixes. Melanie flips five coins, hoping that all of them land heads. What is the probability of the more likely outcome? Express your answer as a common fraction.
157. \_\_\_\_\_ cookies During the first four days of this week, Katie and her friends together ate an average of 8 cookies a day. If the cookies they ate on the fifth day are included, together they ate an average of 10 cookies a day for the five days. How many cookies did they eat on the fifth day?
158. \_\_\_\_\_ books Joseph's books on animation are grouped into books about cartoon mice, cartoon rabbits and cartoon toys, in a ratio of 5:3:2, respectively. If Joseph has 21 cartoon rabbit books, how many books on animation does he have altogether?
159. \_\_\_\_\_ If  $a$  is  $\frac{4}{9}$  of  $b$ , and  $c$  is  $\frac{3}{4}$  of  $a$ , what fraction of  $b$  is  $c$ ? Express your answer as a common fraction.

160. \_\_\_\_\_ m<sup>2</sup> A 6-meter by 8-meter rectangle overlaps a 7-meter by 9-meter rectangle so that they share two sides and a vertex as shown. In square meters, what is the total area of the rectangles not shaded?



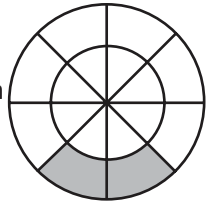


# Warm-Up 12

161. \_\_\_\_\_ At Mercury Junior High 5% of the students are taking both French and Latin. If 25% of the students are taking French, what is the probability that a randomly chosen student taking French is also taking Latin? Express your answer as a common fraction.

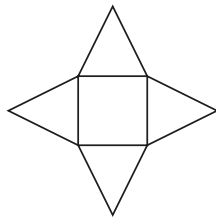
162. \_\_\_\_\_ cm A rectangular prism has a length of  $3x$  cm, a width of  $\frac{1}{3}y$  cm and a height of  $xy$  cm. Its volume is  $144 \text{ cm}^3$ . If the height of the prism is twice its length, what is the length of the prism?

163. \_\_\_\_\_ Two concentric circles are each divided into 8 congruent sections, as shown. The area of the larger circle is 3 times the area of the smaller circle. The shaded region represents what portion of the entire figure? Express your answer as a common fraction.



164. \_\_\_\_\_ feet A playground has a length of  $a$  yards  $b$  feet  $c$  inches. In terms of  $a$ ,  $b$  and  $c$ , how many feet long is the playground?

165. \_\_\_\_\_  $\text{cm}^3$

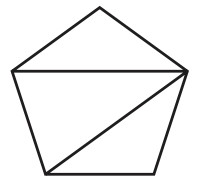


The diagram shows the net for a right square pyramid. Each side of the base is 2 cm long. The length of each side of the isosceles triangular faces is  $\sqrt{3}$  cm. What is the volume of the pyramid? Express your answer as a common fraction.

166. \_\_\_\_\_ What is the value of  $\frac{1 + 2 + 3 + \dots + 2012}{1 + 2 + 3 + \dots + 2013}$ ? Express your answer as a common fraction.

167. \_\_\_\_\_ units What is the length of the shortest side of  $\triangle ABC$  whose perimeter is 64 units, if the ratio  $AB:BC$  is 4:3 and  $AC$  is 20 less than the sum of the lengths of sides  $AB$  and  $BC$ ?

168. \_\_\_\_\_ ways As shown, a regular pentagon can be divided into triangles only by connecting vertices with non-overlapping diagonals in one way. In how many different ways can a regular hexagon be divided into triangles by connecting vertices with non-overlapping diagonals? (Rotations and reflections are not considered different.)



169. \_\_\_\_\_ gallons To create his special blend of lemonade, Manny starts with a lemonade mix that is 20% lemon juice. Then he adds pure lemon juice to make a blend that is 25% lemon juice. How many gallons of pure lemon juice must he add to 30 gallons of the lemonade mix to make his special blend of lemonade?

170. \_\_\_\_\_ Snacklies Pink Snacklies come 3 to a pack, and green Snacklies come 5 to a pack. A basket of pink Snacklies contains 8 more packs than a basket of green Snacklies, although both baskets contain the same number of Snacklies. How many Snacklies are in each basket?