



# Warm-Up 11

151. 13

On the number grid shown, Mara colored all of the positive multiples of  $n$ . Once completed, there was exactly one colored square in each column. What is the sum of all possible values of  $n$ ?

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35

152. 5/18

Two standard, six-sided dice are rolled. What is the probability that the positive difference between the numbers rolled is 1? Express your answer as a common fraction.



153. 1/4

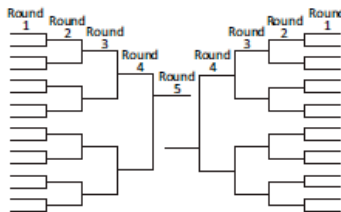
What is the slope of a line perpendicular to the segment AB, which has endpoints A(-8.1, 4.9) and B(-7.6, 2.9)? Express your answer as a common fraction.

154. 162

Each of the digits 1 to 6 is placed in one of the boxes shown here to correctly complete the multiplication problem. What is the three-digit product?



155. 80 points



A jousting tournament has 32 competitors in a single elimination bracket, shown here. The table shows the number of points awarded for each correctly predicted match outcome in the tournament. What is the maximum number of points that can be earned?

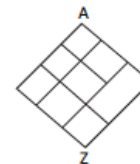
Round 1	1 pt
Round 2	2 pts
Round 3	4 pts
Round 4	8 pts
Round 5	16 pts

156. 1/3

The circumference of the base of a cone is triple the circumference of a cylinder with the same height. What is the ratio of the volume of the cylinder to the volume of the cone? Express your answer as a common fraction.

157. 17 paths

How many paths from A to Z can be traced following line segments on this drawing if paths must be traced in a downward direction, with no retracing?

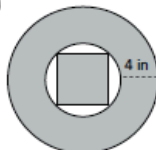


158. 3

If  $\frac{x-y}{z-y} = -2$ , what is the value of  $\frac{x-z}{y-z}$  ?

48π + 32

159. \_\_\_\_\_ in<sup>2</sup>



In the figure, the square is inscribed in the smaller circle, which has a radius of 4 in. The radius of the larger circle is 8 in. What is the total area of the shaded regions? Express your answer in terms of  $\pi$ .

160. 5 players

In a tennis tournament, each of the 10 competitors plays each other player once. What is the maximum number of players who could end the tournament with a record of 7 or more wins?