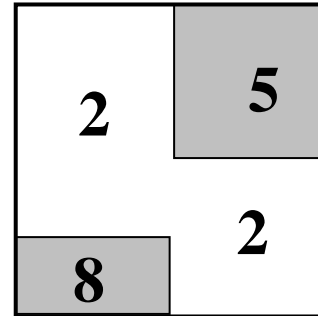


Problem Solving – Expected Value

On the dartboard at right, you score the number of points indicated in each zone...

- [1] Complete the chart below to help determine the expected value for one dart thrown at this dartboard.

Zone	Value	Probability	Expected Value
2			
5			
8			



TOTAL EXPECTED VALUE _____

- [2] If you were to throw **50 darts** at this dartboard, about how many points could you expect to score?

It costs \$1.00 to throw a dart at this dartboard, located on the Seaside Heights boardwalk . If you hit a numbered zone, you get your dollar bet back and win the amount indicated. If you hit a blank zone, you lose your dollar bet and win nothing...

\$ 2		\$ 2		\$ 2
		\$ 5		
\$ 2		\$10		\$ 2
		\$ 5		
\$ 2		\$ 2		\$ 2

- [3] Complete this chart to help determine the expected value for one dart thrown at this dartboard.

Zone	Value	Probability	Exp. Value
Blank			
2			
5			
10			

TOTAL EXPECTED VALUE _____

- [4] Over the long run, would you expect to **win or lose** money? Explain your reasoning.
- [5] Suppose that you are the boardwalk vendor that owns this game. What could you do to make it more profitable? Explain your reasoning.