










What's the Powerball jackpot today?

$$E(X) = P(A) \cdot \text{reward}$$

$$1.69 = \frac{1}{292201338} \cdot X \cdot \frac{2}{3} \cdot \$5 + \frac{1}{3} \cdot \$2$$

$$X(.6) = 493,820,261 \cdot \$4$$

$$= \$823 \text{ mm}$$

Match	Prize	Odds
	Grand Prize	1 in 292,201,338.00
	\$1,000,000	1 in 11,688,053.52
	\$50,000	1 in 913,129.18
	\$100	1 in 36,525.17
	\$100	1 in 14,494.11
	\$7	1 in 579.76
	\$7	1 in 701.33
	\$4	1 in 91.98
	\$4	1 in 38.32

\$0.32

The overall odds of winning a prize are 1 in 24.87.  
 The odds presented here are based on a \$2 play (rounded to two decimal places).

*Why isn't the chance of winning \$4 at 1 in 26? [Click here for FAQ.](#)*

\$2.54 → \$1.73

2017  
\$100

2018 + Lotto  
\$30 + \$70

2019  
\$20 + \$70

Should we buy a ticket?

No

\$823 mm

Aside from material gain, what are the other benefits (extrinsic or intrinsic) of buying a lottery ticket?

Today's learning objective:

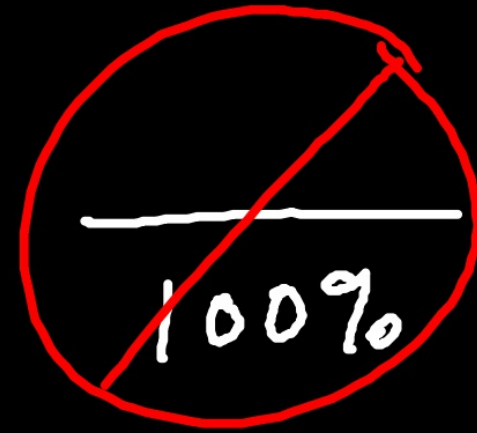
By the end of class, I will be able to calculate expected value.

Today's language objective:

I will use the term "expected value" in the context of games of chance.

$$E(X) =$$

Given that



focused denominator