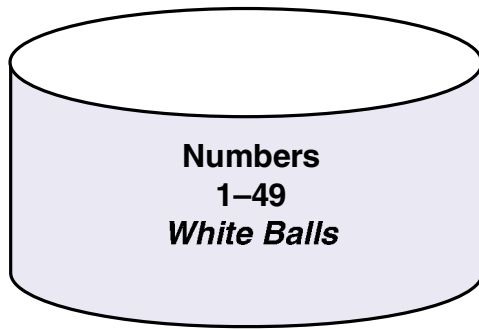# VISUAL 10.1 ▲ Warm-Up

Find the probabilities for the following situations using a standard deck of 52 cards. Show your work.

Remember: Probability of an event = (Successes)/(Total Number of Possibilities)
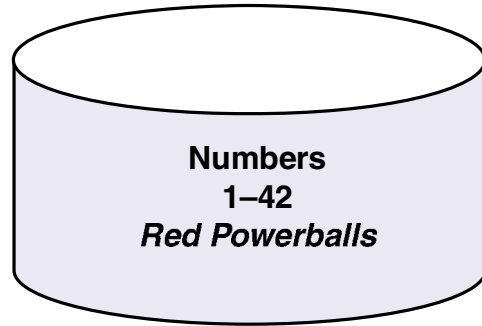
1. Selecting an ace.

2. Selecting a red card.

3. Selecting an ace or a red card.

4. Selecting exactly one ace when five cards are drawn with replacement.

5. Selecting exactly two aces when five cards are drawn with replacement.

6. Selecting exactly four aces when five cards are drawn without replacement.

7. Selecting exactly one red king and four aces when five cards are drawn without replacement.

8. Selecting exactly one red king and three aces when five cards are drawn one at a time without replacement.

**Numbers
1–49
*White Balls***

**Numbers
1–42
*Red Powerballs***

Pick five balls without
replacement

Pick one
red ball

_____ _____ _____ _____ _____   _____
  1   2   3   4   5   1

Pay $1 for each chance to pick
the winning numbers

VISUAL 10.3 ▲ Powerball Prizes

Correct Powerball	Correct White Balls	Prize	Probability
Yes	0	$3.00	1 In 73.7
Yes	1	$4.00	_____
Yes	2	$7.00	_____
No	3	$7.00	_____
Yes	3	$100.00	_____
No	4	$100.00	_____
Yes	4	$5,000.00	_____
No	5	$100,000.00	_____
Yes	5	JACKPOT!!!	_____

Now that you know how Powerball is played, can you calculate the probability of winning $3 by picking only the powerball correctly? Compare your answer with the calculated result above.