

# Essential Math 40S

## Probability Review Practice Test

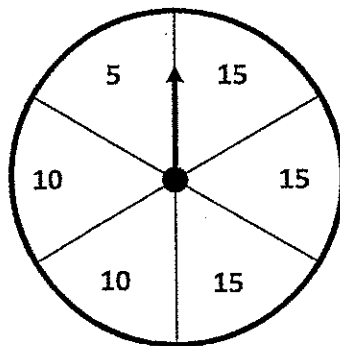
- You are one of a group of 10 people hoping to be picked to go on a trip to Jamaica. What is the probability that you will be randomly picked?
- The chart below shows the population of a junior high school. Use the chart below to answer the questions which follow:

	# of males	# of females	Totals
Grade 7	27	22	49
Grade 8	28	37	65
Grade 9	33	37	70
<b>Totals</b>	<b>88</b>	<b>96</b>	<b>184</b>

If you choose a student at random, what is the probability (as fraction) that student is:

- a) in grade 7: \_\_\_\_\_                      b) not in grade 7: \_\_\_\_\_
- c) male: \_\_\_\_\_                              d) in grade 9: \_\_\_\_\_
- e) in grade 10: \_\_\_\_\_                      f) a grade 8 female: \_\_\_\_\_

- A spinner is divided into six equal sections and labelled as below:



If the spinner is spun once, what is the probability (as percent to one decimal place) that the spinner will land on:

- a) 15: \_\_\_\_\_      b) 5: \_\_\_\_\_      c) an even number: \_\_\_\_\_
- d) odd number: \_\_\_\_\_      d) not a 10: \_\_\_\_\_      e) number that is divisible by 5: \_\_\_\_\_

4. Winnipeg Transit found that 2101 people ride on a certain bus route every day. 515 of these people are students. What is the probability (as a decimal to two decimal places) that if you pick a rider at random that they will NOT be a student?
5. You are trying to decide whether or not to play the following game: Five cards are placed face down on a table, two of the cards have a RED front and the rest have a BLUE front. If you pick the card has a RED front, you win \$50. If you pick one of the other cards, you do not win anything. It costs \$20 to play this game.
  - a) Calculate the expected value for this game.
  - b) What does the expected value tell you?
  - c) Is this what actually happens?
6. At the casino you find a fancy slot machine that costs \$5 to play. The chance of winning is 0.13. If you win, you win \$50. Calculate the expected gain/loss for this game.
7. If you were forced to play one of the games from question 5 or question 6, which game would you play and why?
8. You enter a cribbage tournament where your probability of winning is  $\frac{5}{25}$ . What are the odds of you winning?
9. The Blue Bombers played the Stampeders recently. Before the game was played, the odds of the Blue Bombers winning was 5:12.
  - a) What is the probability that the Bombers would win?
  - b) What does this tell you?
  - c) The Blue Bombers actually won the game. What does this mean in terms of the prediction?
10. The probability that it will snow tomorrow is 0.65 Find the odds that it will not snow tomorrow.
11. Each letter of the words CALCULUS is placed on a card and placed face down in a random order. If a card is randomly chosen, complete the chart:

CARD CHOSEN	Probability	Odds
L		
	$\frac{7}{8}$	
N		
	100%	

PICK UP ANSWER KEY WHEN FINISHED

Answer Key for Probability Practice Test

1.  $\frac{1}{10}$       2. a)  $\frac{49}{184}$       b)  $\frac{135}{184}$       c)  $\frac{88}{184}$       d)  $\frac{70}{184}$       e)  $\frac{0}{184}$       f)  $\frac{37}{184}$
3. a) 50.0%      b) 16.7%      c) 33.3%      d) 66.7%      e) 66.7%      f) 100.0%
4. 0.75
5. a) \$0.00      b) If the game is played many times you can expect to not win or lose any money
- d) NO...you either win \$30 or lose \$20
6. \$1.50 gain      7. Casino game...my expected value is greater than the card game
8. 5:20      9. a)  $\frac{5}{17}$       b) Chances are they will lose      c) It was only a probability...it doesn't mean they will lose.
10. 35:65
- 11.

CARD CHOSEN	Probability	Odds
L	$\frac{2}{8}$	2:6
NOT AN A or NOT AN S	$\frac{7}{8}$	7:1
N	$\frac{0}{8}$	0:8
Any letter	100%	Can't be written as an odd

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1.  $\frac{1}{10}$
2. a)  $\frac{49}{184}$       b)  $\frac{135}{184}$       c)  $\frac{88}{184}$       d)  $\frac{70}{184}$       e)  $\frac{0}{184}$       f)  $\frac{37}{184}$
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4. 0.75
5. a) \$0.00      b) If the game is played many times you can expect to not win or lose any money
- e) NO...you either win \$30 or lose \$20
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