

7th Grade: Read and answer questions

1. If, on average, it takes $\frac{1}{5}$ of an hour to play $\frac{1}{2}$ of an inning, how long does it take to play an average 9-inning game?

2. A batter gets 3 hits in his first 11 at-bats. Use long division to find his batting average.

Does the decimal form of the number terminate or repeat? How do you know?

3. A physicist at the University of Illinois calculated that a batted ball travels 5% further in Denver because of the thinner air than it would at Fenway Park in Boston, near sea level. Suppose a ball is hit 375 feet in Boston. How far would you expect that ball to travel in Denver?

What can you multiply by 375 to find your answer?

The Rockies website claims that balls in Denver actually travel 9% further in Denver than at sea level. By how many extra feet would this change your answer?

4. Hot dog vendors earn money for each hot dog they sell and any money they collect in tips. In one game, a vendor sells 225 hot dogs for \$5.75 each. They earn 64 cents per hot dog sold and customers tip 20%. How much does the hot dog vendor earn for that game?

5. Your friend wants to estimate how many hits Nolan Arenado will get if he plays 160 games in a season. To do this, he goes to eight Rockies home games and counts Arenado's hits. Your friend tells you, "I saw Arenado get 10 hits in eight games. Because 160 divided by 8 is 20, I expect Arenado to get 10 times 20, or 200 hits for the whole season." Is your friend's sampling strategy likely to give him a valid generalization? Why or why not?

6. If a player has a batting average of 0.250 and gets two at-bats per game, what is the probability that the player will get two hits in the two at-bats?

7. Below are the number of stolen bases by the position players with the most games at each position. (2018 stats)

Position	Infielder	SB	Position	Outfielder	SB
C	Chris Iannetta	0	LF	Gerardo Parra	11
1B	Ian Desmond	20	CF	Charlie Blackmon	12
2B	DJ LeMahieu	6	RF	Carlos Gonzalez	5
3B	Nolan Arenado	2			
SS	Trevor Story	27			

On average, which group steals more bases?

How does the mean absolute deviation of the infielders' stolen bases compare to that of the outfielders?