

Date Completed: _____
Mentor Initials: _____

A mentor can change everything.



Dimensional Analysis

Number of hours Chris can play each day	2
Number of levels in the video game	25
Average time, in minutes, it takes for Chris to finish a level.	20

- Chris just purchased a new video game. The table above shows information about the video game and Chris's playing ability. If Chris starts playing on a Saturday, what day of the week will he finish the video game?
A) Monday
B) Tuesday
C) Wednesday
D) Thursday
- John's soccer coach tells him to drink 2 quarts of water per day to stay hydrated during soccer season. John is a hipster and only likes to drink water out of an 8-ounce mason jar. How many times must John fill his mason jar at the water fountain in order to get the full recommended 2 quarts per day?
(Note: 1 quart = 32 ounces)
A) 2
B) 4
C) 6
D) 8
- A team of minions can build a sandcastle in 20 minutes. The minions spend 9 hours in total at the beach. Mid-day, they stop for 1 hour to go on a picnic. How many sandcastles did the minions build in the 9-hour time span?
A) 18
B) 21
C) 24
D) 27

4. A speed of 120 miles per second is equivalent to q miles per minute. What is the value of q ?
 - A) 2
 - B) 1,200
 - C) 3600
 - D) 7,200

5. Which of the following speeds is equivalent to 108 kilometers per hour? (1 kilometer = 1,000 meters)
 - A) 30 meters per second
 - B) 38 meters per second
 - C) 100 meters per second
 - D) 300 meters per second

6. A rectangular stage is 78 feet long and 39 feet wide. What is the area, in square *yards*, of this stage?
 - A) 78
 - B) 234
 - C) 338
 - D) 1,014

7. The New York Marathon has an official distance of 26.219 miles. Remy completed the marathon in 3.2 hours. What was Remy's average speed, rounded to the nearest whole number, during the marathon, in feet per minute? (1 mile = 5,280 feet)
 - A) 8
 - B) 60
 - C) 70
 - D) 721

8. Pure candle wax has a density of 0.9 grams per cubic centimeter. An online company sells pure candle wax at a price of \$6.00 per gram. What is the selling price, in dollars per cubic centimeter, for pure candle wax purchased from this company?
 - A) \$0.15
 - B) \$4.37
 - C) \$5.40
 - D) \$6.00

9. Alexis calculates that she needs 720 square inches of new carpet. But the type of carpet that she wants is priced by the square *foot*. How many square feet of carpet does she need?
- A) 5
 - B) 25
 - C) 60
 - D) 180
10. It took 0.6 seconds for an object to travel 55 feet. To the nearest 0.01 *mile* per hour, what was the speed of the object? (1 mile = 5,280 feet)
- A) 33.00
 - B) 55.60
 - C) 62.50
 - D) 91.67
11. A box is 9 yards long, 6 yards wide, and 3 yards high. What is the volume, in cubic *feet*, of this stage?
- A) 6
 - B) 53
 - C) 162
 - D) 4,374