1. At a recent “Dog walk” at UGA, the crowd was about ½ of a mile long, 6 feet deep on both sides of the street. If we determined that 11 people could fit comfortably in a 5 ft x 5 ft square, how many people were at the “Dog walk”?

2. a. Which ratio is the greatest: A) 13 people: 25 sq. ft., B) 20 people: 40 sq. ft., or C) 1 person: 1 sq. ft.?

How do you know?

b. Which ratio is the greatest if you invert the ratios, in other words, sq. ft.: people?

3. A video game manufacturer stores their games in a room in the warehouse that is 20 feet by 50 feet by 15 feet tall. If each box of video games contains 96 games and is 11inch x 14inch x 12 inches, how many video games will the storage room hold?

4. a. The rules for the sample license plate shown are that it is 3 letters, followed by 3 numbers. How many license plates are possible?

b. How many license plates are possible if the following exceptions are included? The exceptions are that the letter “O” cannot be used at all, the first letter cannot be an “I”, and no plates can have a 3-digit number greater than 899.

5. The figure below shows a 4:3 aspect ratio on a 70-inch TV screen. The letterboxed image has an aspect ratio is 16:9.

1. Find the height of the screen.
2. Find the width of the screen.

**Work Space**

1. Find the area of the screen.
2. Find the height of the image.

6. The figure below shows a 16:9 aspect ratio TV screen. Aspect ratio of the pillar boxed image is 1.85:1.

1. If the TV has an 80-inch screen, find the height of the screen.
2. Find the width of the screen.

**Work Space**

1. Find the area of the screen.
2. Find the width of the image.

7. Zeke replaces his original factory tires (P215/45R15) on his Camaro with P245/75R17 tires.

a. Find the circumference of each of the sets of wheel / tire combinations. **Round to hundredths and show all work on the attached table.**

P215/45R15 circumference \_\_\_\_\_\_\_\_\_\_\_\_\_\_

P245/75R17 circumference \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. If the odometer reads 20000 miles, the car has actually traveled \_\_\_\_\_\_\_\_\_\_\_\_\_ miles.

c. If the speedometer reads 60 mph, the car is actually traveling \_\_\_\_\_\_ mph.

|  |  |  |
| --- | --- | --- |
| **Tire** |  |  |
| **Width (mm)** |  |  |
| **Aspect Ratio (%)** |  |  |
| **Height (in)** |  |  |
| **Diameter (in)** |  |  |
| **Circumference (in)** |  |  |
| ***k*** |  | |
| **Odometer Work** |  | |
| **Speedometer Work** |  | |

8. Jorge replaces his original factory tires (P275/45R18) on his Corvette with new (P245/35R17) tires.

a. Find the circumference of each of the sets of wheel / tire combinations.

P275/45R18 circumference \_\_\_\_\_\_\_\_\_\_\_\_\_\_

P245/35R17 circumference \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. If the odometer reads 25000 miles, the car has actually traveled \_\_\_\_\_\_\_\_\_\_\_\_\_ miles.

c. If the speedometer reads 70 mph, the car is actually traveling \_\_\_\_\_\_ mph.

|  |  |  |
| --- | --- | --- |
| **Tire** |  |  |
| **Width (mm)** |  |  |
| **Aspect Ratio (%)** |  |  |
| **Height (in)** |  |  |
| **Diameter (in)** |  |  |
| **Circumference (in)** |  |  |
| ***k*** |  | |
| **Odometer Work** |  | |
| **Speedometer Work** |  | |

9. Antonio is making labels to go around soup cans for his new brand of soup. The cans are 3 inches across and 5 inches tall. How many labels can Antonio make with 300 square inches of paper? (hint: draw a net/the image of the can if you rolled it open)



10. Debbie’s Delights had a rectangular shaped cake to frost the sides and top for a birthday party. The cake measures 16 inches long, 9 inches wide, and 4 inches tall. If one can of frosting covers 140 square inches, how many cans of frosting did they have to buy to frost the cake?