

Bell Ringer Using Proportional Relationships to Solve Multistep Ratio and Percent Problems

Grade Level 7

Competency: H7 Demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risk.

Objective: The students will become aware of the increased risk for children and teens in motor vehicle crashes.

Common Core Standards:

CCSS.Math.Content.6.SP.B.5.c

Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

CCSS.Math.Content.6.RP.A.3

Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

CCSS.Math.Content.7.RP.A.3

Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

1) Listed below are the number of motor vehicle occupant crash fatalities that occurred from 2006-2012 among children ages 19 and under.

5814, 5477, 4403, 3931, 3440, 3311, 3116

Using the listed numbers, find the mean, median, mode, and range. Round your answers to the nearest tenths place if necessary.

2) Teens ages 15-19 years old made up 74% of motor vehicle occupant/driver fatalities in 2012. Write 74% as a decimal and fraction in simplest form.

3) There were 373,829 children ages 19 and under injured in motor vehicle crashes in 2011. Of these, 211,050 were ages 16 to 19. What percent of the total injuries occurred in children ages 16 to 19? Round your answer to the nearest tenths place.

4) The motor vehicle occupant crash fatalities among children ages 19 and under in 2011 was 3311 and 3116 in 2012. What was the percent of change from 2011 to 2012? Round your answer to the nearest tenths place.

Answers:

1) median: 3,931 mode: no mode mean: 4,213.1 range: 2,698

2) .74 and $\frac{37}{50}$

3) 56.5%

4) 5.9% decrease