Topic 1: Ratios, Rates and Proportions

Write each ratio in simplest form.

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| 1. 12 to 15 |  | 1. 40 sec : 2 min |

Write each rate in simplest form.

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| 1. $937.50 for 25 m2 of tile | 1. Reading 14 books in 6 weeks | 1. Running 5 km in 40 min. |

Determine the unit rate.

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| 1. 10 km in 40 minutes | 1. 6m2 of material for 5 dresses | 1. 420 calories in 8 ounce can of soda |

Find the best buy.

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| 1. Oranges: Bag A contains 12 oranges and costs $6.50. Bag B has 8 oranges and costs $4.50. | 1. Tea: Box A contains 120 tea bags and costs $6.95. Box B contains 200 tea bags and costs $10.95. |

Solve using proportions.

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| 1. 48 is 16% of what number? | 1. What percent of 200 is 250? | 1. What is 9.5% of 12.4? |

Solve.

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| 1. Pat’s salary before two 10% raises was $60,000. What is Pat’s salary after the two raises? | 1. What single discount is the same as two 15% discounts? |

**Topic 2: Linear Relations**

**The graph shows the rate of pay based on the number of hours worked.**

1. Make a table of values for the ordered pairs on the graph.
2. What is the hourly rate of pay?
3. If the time worked is 4.5 hours, how much pay is earned?

**Mara reads 90 words per minute.**

1. Create a table of values and graph the relationship

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1. Is this a linear relationship?

YES – Write an expression with the number of minutes as 

NO – explain why it is not a linear relationship.

1. How many words can Mara read in 15 min?

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An animal shelter pays you $5 for each dog you walk.

1. Write a formula to relate the money you make to the number of dogs you walk.
2. Create a table of values and graph your coordinates.

Topic 3: Solving Linear Equations

Model and solve each equation

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Solve and check your answer

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A bowling alley charges $5 for shoe rental and 4 games for $5.

1. What is the unit rate per game?
2. Write an equation to represent how much it will cost to play any number of games. Let represent the total cost and the number of games.
3. How many games did you play if you spent $10 in total? Show how you got to your answer using
   1. Table of Values – with at least 5 values
   2. Graph
   3. Equation

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