



**PRACTICE: Variable Expressions**

**Part 1:** In the scenarios below, identify the independent and dependent variables. (Us depends on \_\_\_\_\_ " statements to help you!) Then write an expression to match the scenario and solve the problem using any method. Please SHOW ALL WORK!

<p>1) At Isaac's ice cream shop, the cost is \$1.75 for a sugar cone and \$0.50 per scoop of ice cream.</p> <p>Dependent Variable: _____</p> <p>Independent Variable: _____</p> <p>Expression: _____ = _____ + _____</p> <p>How much does it cost for a 2-scoop cone?</p>	<p>2) It takes Kyra about 1 1/4 minutes to run a lap around the school track.</p> <p>Dependent Variable: _____</p> <p>Independent Variable: _____</p> <p>Expression: _____ = _____</p> <p>How many laps can she run in 6 minutes?</p>
<p>3) Javier is on a road trip and has traveled 190 miles already. He sets out for his next stop driving at a speed of 65 miles per hour.</p> <p>Dependent Variable: _____</p> <p>Independent Variable: _____</p> <p>Expression: _____</p> <p>How far has he traveled after 4 more hours?</p>	<p>4) Emily has \$200 in her savings account. She plans to add \$35 per week from her paycheck.</p> <p>Dependent Variable: _____</p> <p>Independent Variable: _____</p> <p>Expression: _____</p> <p>How much money will Emily have in her savings account after 3 weeks?</p>

**Part 2:** Label the Dependent and Independent variables in the expressions below. Then write a scenario to match each expression. \*Note: the variables in your scenarios DO NOT need to match up with the letters used in the expressions!

- 5)  $a = 7b$
- 6)  $2r + 3 = S$
- 7)  $d = 10 + 25t$

**Variable Relationships & Expressions for Scenarios**

**Part 1:** Label the independent variable "I" and dependent variable "D" for each set of variables. If it helps you, write a "\_\_\_\_\_ depends on \_\_\_\_\_" statement first.

<p>1) The relationship between your age and your height</p>	<p>2) <math>M = \text{money raised}</math>, <math>T = \text{raffle tickets sold}</math></p>	<p>3) Distance travelled and time spent travelling</p>
<p>4) Dustin Pedra averages 2 hits per game.</p>	<p>5) The relationship between your grades and the amount of effort you put into your work</p>	<p>6) Kendra takes about 2 minutes for each lap she runs around the track</p>

**Part 2:** Write an algebraic rule (or expression) to match each story on the left. \*It may help you to label the independent and dependent variables first!

<p>A) Victor's grandmother gave him \$500 to open a savings account. He plans on adding \$200 per month to the account from his paycheck.</p>	<p>RULE: _____</p>
<p>B) Connex Mobile charges 50 cents per minute and a \$10 data fee each month for a cell phone plan.</p>	<p>RULE: _____</p>
<p>C) The 7<sup>th</sup> grade is selling concert tickets to raise field trip funds. They spent \$500 for the band they want, and are selling the tickets for \$20 per person to raise money.</p>	<p>RULE: _____</p>
<p>D) At Frankie's Ice Cream Shop, it costs \$1.50 per scoop of ice cream.</p>	<p>RULE: _____</p>
<p>E) There are 50 liters of water in a tank. While draining, it loses water at a rate of 3 liters per minute.</p>	<p>RULE: _____</p>
<p>G) Aurea is participating in a bike-a-thon to raise money for children with cancer. One sponsor pledges to give her \$15 per mile she bikes.</p>	<p>RULE: _____</p>
<p>H) Megan has a 60% for a math grade so far this school year, because she has not been passing in all homework assignments. Her goal is to increase her grade by 10 points each week until she has an "A."</p>	<p>RULE: _____</p>
<p>I) Marco owes his friend Rene \$20. This week, he promises to pay him back \$5 per day until he owes him nothing.</p>	<p>RULE: _____</p>

**PART 3:** Write three of your own scenarios. For each, label the independent variable and dependent variable. Then write a rule (or expression) to match each of your scenarios.