

A **variable** is a symbol used to represent one or more numbers. Some of the following problems use a variable to represent an unknown amount.

For each story below, determine or write the correct mathematical expression.

<p>1. Darth Vader makes \$7.50 per party to attend birthday parties. He attends 8 parties in June and 6 parties in July. Which equation can be used to find the total amount Darth Vader made during those two months?</p> <p>A <math>t = \\$7.50(8 \cdot 8 + 6)</math>            B <math>t = \\$7.50 \cdot 8 + \\$7.50 \cdot 6</math>            C <math>t = \\$7.50(6 \cdot 8 + 8)</math>            D <math>t = \\$7.50(8 \cdot 6)</math></p>	<p>2. Luke Skywalker decides he wants to sell lemonade to all of his galactic friends. He buys 2 bags of cups and 6 packets of lemonade for a total of \$6.03. Each bag of cups costs \$1.29. Which equations can be used to find the total cost of one packet of lemonade?</p> <p>A <math>t = (\\$1.29 \cdot 2) + 6.03</math>            B <math>t = \\$6.03 - (6 \cdot \\$1.29)</math>            C <math>t = (\\$6.03 - 2 \cdot \\$1.29) \div 6</math>            D <math>t = (\\$6.03 - \\$1.29) \div 6</math></p>
<p>3. Princess Leia is a very good math student. Her average math grade was a 95 on her 15 tests. If Darth Mangham decides to drop her lowest grade, write an expression that could be used to determine her new test average. You do not need to solve.</p>	<p>4. Jabba the Hut needs to drink a lot of water. His water tank contains 2,500 gallons. A faucet attached to the tank releases water at 5 gallons per minute. Write an expression to express the amount of water left after the faucet has been left open for 2 hours. You do not need to solve.</p>
<p>5. The Force Inc. employs 450 workers. It plans to increase its workforce by 8 employees per month until it has doubled in size. Which equation could be used to determine <math>m</math>, the number of months it will take to double in size?</p> <p>A <math>8m + 450m = 900</math>            B <math>2m + 450 = 900</math>            C <math>2(8m + 450) = 900</math>            D <math>8m + 450 = 900</math></p>	<p>6. Which situation is best represented by the equation <math>4 \cdot h = 68</math>?</p> <p>A Chewbacca had 68 pieces of candy to give to 4 friends. How many pieces of candy will each friend get?            B If one gallon of water costs \$4, how many gallons of water will Han Solo need to drink to walk 68 miles?            C Luke is 68 inches tall. How tall will he be if he grows 4 more inches?            D Yoda read 4 pages of a book that is 68 pages long. How many pages does Yoda have left to read?</p>
<p>7. Obi-Wan owns a Jedi training business. Each week, he buys 45 pints of “the force” for \$3.49 per pint. If he teaches an 18 week long class, which expression could be used to determine the total amount he spends on “the force”?</p> <p>A <math>3.49 \cdot 18</math>            B <math>3.49 \cdot 45 \cdot 18</math>            C <math>45 \cdot 18</math>            D <math>45 \div 3.49 \cdot 18</math></p>	<p>8. C3PO and R2D2 are both building droids to help Luke. They work 8 hours a day. In one day, C3PO can make 9 droids and R2D2 can make 12 droids. Which equation shows how many total droids C3PO and R2D2 can build in 72 hours?</p> <p>A <math>(12 + 9) \cdot 8</math>            B <math>(12 + 9) \cdot 72</math>            C <math>(12 + 9)(72 \div 8)</math>            D <math>(12 + 9)(8 \div 72)</math></p>