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UNIT 6 LESSON 2

**AIM**: SWBAT determine the percent of a number.

**THINK ABOUT IT!**

Use the problem “what is 25% of 60” to complete the following steps:

Step A: Complete the double number line to represent and solve the problem

Step B: Write an equation that represents your double number line and solve it for the unknown

Test the Conjecture #1) What is 120% of 40?

Test the Conjecture #2) Margo is practicing her free throws for basketball tryouts. To make the team she has to make at least 80% of her free throws. How many free throws does she have to make if she attempts 20 shots?

Conjecture

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**PARTNER PRACTICE**

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| *Bachelor Level* |

1. Which equation could be used to determine 23% of 122? Select all that apply.
	1. $\frac{23}{100}=\frac{122}{p}$
	2. $23=\frac{p}{122}$
	3. $\frac{23}{100}=\frac{p}{122}$
	4. $\frac{23}{100}p=122$
	5. $122\left(0.23\right)=p$

For questions 2-3, draw a double number line, set up an equation, and solve your equation.

1. What is 30% of 50?
2. What is 65% of 40?

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| *Master Level* |

1. A baseball pitcher won 80% of the games he pitched. If he pitched 35 ballgames, how many games did he win?
2. What is 0.2% of 300?

**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

1. What percent problem could be solved using the equation $\frac{46}{100}=\frac{p}{90}$?
	1. What is 90% of 46?
	2. 90 is what percent of 46?
	3. 46% of 90 is what number?
	4. 46 is 90% of what number?
2. Draw a double number line and equation to determine what 150% of 42 is.
3. Draw a double number line and equation to determine what 3% of 200 is.

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| *Master Level* |

1. A student earned a grade of 80% on a math test that had 80 problems. How many problems on this test did the student answer correctly? Use a double number line to justify the equation you used to solve.
2. Mr. Roble’s music library in iTunes has 1,200 songs. He loves bluegrass music and 78% of his music library is bluegrass music. How many songs on Mr. Robles iTunes are bluegrass songs.
3. Wesley and Will are going on a road trip that will last for four days (96 hours). They have allotted 1/8 of their time for driving. Use percents, a double number line, and an equation to determine how many hours they can expect to drive for their trip. Explain how you used percents to solve the problem.

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1. A metal bar weighs 8.15 ounces. 93% of the bar is silver. How many ounces of silver are in the bar? (round to the nearest thousandth)

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| *PhD Level* |

1. Set up a double number line to write and solve an equation for the given problem.
	1. 40 is 80% of what number?
	2. 18 is what percent of 72?
2. How did your double number line and equation change to be able to solve these problems?

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**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EXIT TICKET**

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| Self-assessment | I mastered the learning objective today. | I am almost there.  | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there.  | You need more practice and feedback. |

1. Use a double number line and equation to model and determine what 140% of 60 is.
2. In Ty’s math class, 20% of the class earned an A on their latest math exam. If there are 30 students in Ty’s math class, use a double number line to determine the number of kids that earned an A.