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UNIT 5 LESSON 12

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| AIM: | SWBAT solve percent problems  |

**THINK ABOUT IT!**

Can you use an equation to solve the following problem? If so, solve using an equation and explain why. If not, explain why.

Jane has 5 skittles in her candy collection. The skittles make up 10% of her candy collection. How many candies does she have in all?

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Key Point

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| An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can be used to solve any percent problem |

**Interaction with New Material**

Ex. 1) Arvon went to watch The Avengers at the movie theater. He noticed that 12 of the movie extras during one of the scenes were 5th grade teachers from Achievement First and 36 of the movie extras were 6th grade teachers from Achievement First. There were 60 teachers in total. What percent of the movie extras were teachers from Achievement First?

* **CFS for top quality work**
	+ Annotated with *numbers* circled and *terms* underlined
	+ Equation is written with ***known*** and ***unknown*** information correctly
	+ All work is shown (including the relationship between terms)
	+ Answer statement is written

**PARTNER PRACTICE**

* **CFS for top quality work**
	+ Annotated with *numbers* circled and *terms* underlined
	+ Equation is written with ***known*** and ***unknown*** information correctly
	+ All work is shown (including the relationship between terms)
	+ Answer statement is written

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| *Bachelor Level* |

1. 30 is what percent of 40? **Use an equation to solve**.

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1. A grizzly bear sheds 20% of its weight from hibernation in three weeks, which is 80 pounds. What was the bear’s initial weight? **Show your work using an equation**.

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| *Master Level* |

1. 55% of a number is 66. Which statements below are true? Select all that apply.

a) The number is less than 66

b) The number is more than 66

c) The number is 36.3

d) The number is 120

**INDEPENDENT PRACTICE**

* **CFS for top quality work**
	+ Annotated with *numbers* circled and *terms* underlined
	+ Equation is written with ***known*** and ***unknown*** information correctly
	+ All work is shown (including the relationship between terms)
	+ Answer statement is written

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| *Bachelor Level* |

1. 30% of what number is 9? **Use an equation to solve.**

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1. What is 15% of 80? Use an equation to solve. **Use an equation to solve.**

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| *Master Level* |

1. Sarah answered 75% of the questions on a test correctly. If she answered 60 questions correctly, how many questions were on the test? **Show your work.**

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1. Stephanie put 36 of her t-shirts in her dresser. She has 90 t-shirts. Read each statement below and decide whether it is “True” or “False.” **Show your work.**

|  |  |  |
| --- | --- | --- |
| Statement | True | False |
| More than half of her t-shirts are in her dresser |  |  |
| More than half of her t-shirts are somewhere else in the room |  |  |
| 25% of her t-shirts are in her dresser  |  |  |
| 40% of her t-shirts are in her dresser |  |  |
| 60% of her t-shirts are in her dresser |  |  |

1. A street performer earns 40% of all of his daily earnings at the Barclays Center subway station. He earns about $60 at that station. Assuming he works every day and earns the same amount, how much does he earn in two weeks? **Show your work.**

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1. Which equations can be used to find the total when 85% of the total is 68? Circle all that apply.
	1. $\frac{85}{100}=\frac{x}{68}$
	2. $\frac{17}{20}=\frac{68}{x}$
	3. $0.85=\frac{68}{x}$
	4. $\frac{68}{x}=\frac{85}{100}$
	5. $\frac{17}{50}=\frac{68}{x}$
	6. $\frac{68}{100}=\frac{85}{x}$

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| *PhD Level* |

1. Tricia had a birthday party. During the party, she opened 36 gifts, which was 60% of all of her gifts. After the party, she opened the rest of the gifts and found that 25% of them were the same present, so she returned all but one of the duplicate gifts. How many gifts did she return? **Show your work.**

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* **CFS for top quality work**
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	+ Equation is written with ***known*** and ***unknown*** information correctly
	+ All work is shown (including the relationship between terms)
	+ Answer statement is written

**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. Joshua delivered 30 hives to the local fruit farm. If the farmer has paid to use 5% of the total number of Joshua’s hives, how many does Joshua have in all?
2. Henry has 15 lawns mowed out of a total of 60 lawns.
	1. What percent of the lawns did Henry mow?
	2. An hour later, Henry finished mowing 18 lawns. What percent of the lawns does he still have to mow?