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

UNIT 5 LESSON 11

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| AIM: | SWBAT solve percent problems  |

**THINK ABOUT IT!**

Karin’s teacher asked her to find 20% of 10. She set up the equation below.

$$\frac{20}{100}=\frac{x}{10}$$

Can she use the equation to find 20% of 10? Prove it.

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Key Point:

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| An equation can be used to find a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a number by solving either vertically or horizontally.  |

**Interaction with New Material**

Aaliyah went to the 2016 Summer Olympics and watched the US women’s volleyball match against Brazil. 70% of the serves from Brazil were out of bounds. Aaliyah saw 30 serves from Brazil. How many serves from Brazil were out of bounds?

**PARTNER PRACTICE**

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| *Bachelor Level* |

1. What is 10% of 20? Use an equation and show how to find the unknown part.

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED

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1. What is 60% of 80? Use an equation to show your work.

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED

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| *Master Level* |

1. What is 45% of 10?

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED

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1. 75% of the referee calls made during a New York Jets game were said to be incorrect by NFL reporters. The referees made 60 calls in all during the game. Which equations below represent how you could solve for the number of incorrect calls that were made? **Select all that apply.**

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED

a) $\frac{75}{100}=\frac{60}{x}$

b) $\frac{75}{100}=\frac{x}{60}$

c) $\frac{3}{4}=\frac{x}{60}$

d) $\frac{3}{4}=\frac{60}{x}$

**INDEPENDENT PRACTICE**

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| --- |
| *Bachelor Level* |

1. What is 20% of 50? Use an equation and show how to find the unknown part.

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED

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1. Part A: A street performer earns 45% of all of his daily earnings at the Barclays Center subway station. He earns about $300 daily. How much does he earn at the Barclays Center subway station? **Show your work.**

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED

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| *Master Level* |

1. Mr. Vasquez lifts 140 pounds on a heavy workout day and lifts 85% of that on a light workout day. How many pounds does he lift on a light workout day?

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED

1. Javi wants to figure out what 44% of 80 is. Circle all of the equations below that he could use to find 44% of 80.
	1. $\frac{44}{100}=\frac{80}{x}$
	2. $\frac{44}{100}=\frac{y}{80}$
	3. $\frac{11}{25}=\frac{w}{80}$
	4. $\frac{44}{80}=\frac{x}{100}$
	5. $\frac{22}{50}=\frac{x}{80}$
	6. $0.44=\frac{y}{80}$
2. Over the weekend, Justin went shopping for new clothes. All of his purchases are recorded in the table below.

|  |  |
| --- | --- |
| **Item** | **Cost ($)** |
| Shoes | 110 |
| Jeans | 55 |
| Shirt | 35 |
| Socks | 20 |

Justin received a coupon for 35% off his total purchase when he checked out. What was the discount, in dollars, that he received on his purchase?

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| *PhD Level* |

1. In 2014, Adele sold 2,500,000 records. In 2015, she sold 90% of the number of records she sold in 2014. In 2016, she sold 80% of the number of records she sold in 2015. How many records did she sell in 2016? **Show your work.**
2. Write an equation that could be used to find X% of any number, N.

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

**U5L11 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. Joaquim sold 40% of the fruit at Saturday’s Farmer’s market. He started the day with 60 pieces of fruit. How much fruit did he leave with? **Show your work.**

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED

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1. Kristina wants to find 45% of 600.
	1. Which equation(s) can be used to find 45% of 600? **Select all that apply.**

CFS for top quality work

* Annotations: circle starting percent/total. Underline what you’re solving for
* Equation: includes known and unknown information
* All work is shown
* Answer statement is BOXED
	+ 1. $\frac{45}{100}=\frac{x}{600}$
		2. $\frac{45}{100}=\frac{600}{x}$
		3. $\frac{9}{20}=\frac{x}{600}$
		4. $\frac{45}{600}=\frac{x}{100}$
		5. $0.45=\frac{x}{600}$
	1. What is 45% of 600? **Show your work.**

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