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

UNIT 5 LESSON 8

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| AIM: | SWBAT find a percent of a number |

**THINK ABOUT IT!**

Aiden plays basketball for his Middle school. He keeps track of how many shots he makes for each type of basketball shot.

Aiden made $\frac{1}{10}$ of the 40 free throws he took. How many free throws did he make?

Aiden made 10% of the 40 three-pointers he took. To figure out how many three-pointers he made, he created a double number line below. Use the double number line to help him figure out how many three-pointers he made.

Percent

3-Pointers

0

0%

100%

40

**Test the Conjecture**

*Test the Conjecture #1)* Antonia plays on a basketball team made up of a total of 25 girls. 20% of the team plays on the travel squad. How many girls play on the travel squad?

*Test the Conjecture #2)* Jon plays hockey on his High School team. In the last five years, he has chipped 25% of his teeth. Jon has 24 teeth in his mouth. How many are not chipped?

Conjecture

|  |
| --- |
| Finding a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a number is the same as finding part of a number |

**PARTNER PRACTICE**

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| *Bachelor Level* |

1. What is 50% of 50? Use a double number line diagram to show your work.
* CFS for top quality work
	+ Annotations: circle starting information
	+ Model is drawn accurately
	+ All work is shown
	+ Answer statement is BOXED
1. The Endeavor Middle School’s girls’ basketball team lost 10% of the games they played. They played 30 games in all. How many games did they win?
* CFS for top quality work
	+ Annotations: circle starting information
	+ Model is drawn accurately
	+ All work is shown
	+ Answer statement is BOXED

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| *Master Level* |

1. Jorge went to his favorite store and saw that there was a sale and every item was reduced by 25% of the original cost. Read each answer statement below and determine whether it is “True” or “False.” **Show your work.**
* CFS for top quality work
	+ Annotations: circle starting information
	+ Model is drawn accurately
	+ All work is shown
	+ Answer statement is BOXED

|  |  |  |
| --- | --- | --- |
| Statement | True | False |
| To find out the amount of money taken off the original cost, you can multiply the original cost by ¼ |  |  |
| If he bought something that originally cost $44, the cost was reduced by $11 |  |  |
| If he bought something that originally cost $44, he paid $11  |  |  |
| If he bought something that originally cost $60, he paid $45 for it |  |  |
| If he bought something that originally cost $60, he paid $15 for it |  |  |

**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

1. What is 20% of 80? Use a double number line diagram to show your work.
* CFS for top quality work
	+ Annotations: circle starting information
	+ Model is drawn accurately
	+ All work is shown
	+ Answer statement is BOXED

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1. Deshon read 25% of his favorite book over the weekend. The book has 240 pages. How many pages does he have left to read?
* CFS for top quality work
	+ Annotations: circle starting information
	+ Model is drawn accurately
	+ All work is shown
	+ Answer statement is BOXED

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1. Jeremiah says to find 20% of 60, you can just find $\frac{1}{5}$ of 60. Do you agree or disagree with his claim? Explain.

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| *Master Level* |

1. There are 28 students in a class. Ms. Quinones put 25% of the class in group A, 50% of the class in group B, and the rest of the students in group C. Select each statement below that accurately describes the groupings she made. Select “yes” or “no.”

**Show your work.**

|  |  |  |
| --- | --- | --- |
| Statement | Yes | No |
| There are more students in group C than in group A |  |  |
| The number of students in groups A and C combined is that same as the number of students in group B |  |  |
| There are 14 students in group B |  |  |

1. There are 60 animal exhibits at a local zoo. Complete the table below identifying the number of exhibits for each animal class or the percent of all the exhibits for each animal class.

|  |  |  |
| --- | --- | --- |
| **Exhibits by Animal Class** | **Number of Exhibits** | **Percent of the Total Number of Exhibits** |
| Mammals |  | 50% |
| Reptiles and Amphibians |  | 25% |
| Fish and Insects |  | 5% |
| Birds | 12 |  |

1. Erica was collecting toy trucks. She has collected 50 toy trucks so far.
	1. Of those trucks, 20% of them are fire trucks. How many fire trucks does Erica have?

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* 1. Of the trucks that are fire trucks, 10% of them are yellow. How many fire trucks are yellow?

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* 1. Of the trucks that are not fire trucks, 25% of them are ambulances. How many are ambulances?

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| *PhD Level* |

1. 950,000 people voted on a proposed law would make the school year shorter. The proposed law needs at least 55% of voters that want the law to pass to make it official. Four hundred ninety thousand voters want the law to pass. Is that enough for the law to pass?
2. Which expression(s) below represents how to find25% of n? Select all that apply.

a) 25 x n

b) $\frac{n}{4}$

c) $\frac{1}{4}$ x n

d) $\frac{1}{4}$ + n

**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. Mr. Toro saved up $440 from his salary to go on vacation. He wants to spend 20% of his savings on a ticket to Disneyland. How much did the ticket to Disneyland cost? Draw a model to show your work.
* CFS for top quality work
	+ Annotations: circle starting information
	+ Model is drawn accurately
	+ All work is shown
	+ Answer statement is BOXED

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1. Mr. Alpert’s house has 40 windows. Kids playing baseball outside the house broke 10% of the windows. Determine which statement below is true and which is false. Your work should include a model.
* CFS for top quality work
	+ Annotations: circle starting information
	+ Model is drawn accurately
	+ All work is shown
	+ Answer statement is BOXED

|  |  |  |
| --- | --- | --- |
| Statement | True | False |
| 4 windows were broken |  |  |
| 4 windows were not broken |  |  |
| 36 windows were broken |  |  |
| 36 windows were not broken |  |  |