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UNIT 5 LESSON 9

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

**THINK ABOUT IT!**

On Halloween, Nathaniel and his sister each collected 160 pieces of candy.

Nathaniel has eaten 25% of his candy. How many pieces of candy has he eaten?

His sister has eaten 75% of her candy. How many pieces of candy has she eaten?

Explain how you figured out how many pieces of candy his sister ate.

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Key Point

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| We can use benchmark percents to find a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a number |

**Interaction with New Material**

Example 1) Ali is leading a group of students at her school to recycle discarded waste. She recorded the weight of the waste that each person collected in the table below.

|  |  |
| --- | --- |
| Group Member | Amount of Waste (lbs.) |
| Ali | 35 |
| Shantay | 58 |
| Justin | 47 |

After going through all of the waste, Ali decided that 90% of it was recyclable. How many pounds of waste did the group collect that was recyclable?

**PARTNER PRACTICE**

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| *Bachelor Level* |

1. What is 30% 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

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1. Nathaniel ate 75% of his chocolate bars. He started with 40 chocolate bars. Read each statement below and decide 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 |
| We can use the benchmark of 25% to help us determine the number of chocolate bars Nathaniel ate. |  |  |
| Nathaniel ate 10 chocolate bars |  |  |
| Nathaniel ate 30 chocolate bars |  |  |
| Nathaniel has 10 chocolate bars left |  |  |

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| *Master Level* |

1. Over the summer, Shaqur spent 120 hours reading. He spent 60% of that time reading science fiction and the rest of the time reading non-fiction.
   1. For how many hours did he read science fiction books? Non-fiction?

* 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. Of the amount of time he spent reading non-fiction books, 12 of those hours were spent reading history books. What percent of the time reading non-fiction books was spent reading history books?
* 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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**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

1. What is 80% 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. D’Asia had 350 pencils at the start of the year. She was so generous that she gave away 60% of her pencils to other students by the end of the year. How many pencils did she give away by the end of the year?

* 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. Part A: To find 15% of 60, which benchmark percent would you use?

* CFS for top quality work
  + Annotations: circle starting information
  + Model is drawn accurately
  + All work is shown
  + Answer statement is BOXED

a) 5%

b) 10%

c) 15%

d) 20%

Part B: Find 15% of 60 using a double number line.

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| *Master Level* |

1. Jacob went apple picking and picked 70 apples. He gave 20% of them away, he ate 70% of them, and the rest were rotten. Select all of the statements below that are true.

**Show your work.**

a) There were more rotten apples than apples that he gave away

b) 10% of the apples were rotten

c) He gave away 14 apples

d) He ate 7 apples

e) 7 apples were rotten

1. Leah is putting all of her 800 photos from traveling around the world into photo albums. Complete the table below for each country that she traveled to.

|  |  |  |
| --- | --- | --- |
| **Country** | **Number of photos** | **Percent of total number of photos** |
| Mexico |  | 40% |
| Namibia |  | 25% |
| China |  | 15% |
| Italy | 160 |  |

1. How can you find 60% of any number (n)? Explain.

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1. There were 60 questions on last week’s science test.
   1. Jamal got 80% of the questions correct. How many questions did he get correct?

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* 1. Of the questions Jamal got correct, 75% of the questions were multiple choice. How many multiple choice questions did Jamal get correct?

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* 1. Of the questions that Jamal got incorrect, 3 of them were open ended problems. What percent of the problems Jamal got incorrect were open ended?

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| *PhD Level* |

1. Peter and his friends are all driving from Boston to New York. Peter is driving 120 miles per hour. Lauren is driving 80% as fast as Peter. Gabe is driving 75% as fast as Lauren. And, Deshawn is driving 25% as fast as Lauren. What percent of Peter’s speed is Deshawn driving?

**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. |

* CFS for top quality work
  + Annotations: circle starting information
  + Model is drawn accurately
  + All work is shown
  + Answer statement is BOXED

1. What is 75% of 88?
2. Marissa got 70% of the questions correct on her quiz out of 40 total questions. How many questions did she get wrong?

* CFS for top quality work
  + Annotations: circle starting information
  + Model is drawn accurately
  + All work is shown
  + Answer statement is BOXED
  1. 12
  2. 28
  3. 30
  4. 70