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

UNIT 5 LESSON 6

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| --- | --- |
| AIM: | SWBAT understand percents |

**THINK ABOUT IT!**

The grid below is a 10 by 10 grid. The shaded portion represents 34% of the grid.



Write a decimal that represents the shaded portion

Write a fraction that represents the shaded portion

Write a ratio that represents the shaded portion

What is true about the decimal, fraction, ratio, and percent? Why?

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Key Point

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are ratios where the whole is \_\_\_\_\_\_\_. |

**Interaction with New Material**

Ex.1) Robb’s Fruit Farm consists of 100 acres, on which three different types of apples grow. On 25 acres, the farm grows Empire apples. McIntosh apples grow on 30% of the farm. The remainder of the farm grows Fuji apples. Shade in the grid below to represent the portion of the farm each apples type occupies. Then, complete the table.



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Percent | Ratio | Decimal | Fraction |
| Empire |  |  |  |  |
| McIntosh |  |  |  |  |
| Fuji |  |  |  |  |

**PARTNER PRACTICE**

* **CFS for top quality work**
  + Annotated with *numbers* circled and *terms* underlined
  + ***Model*** is drawn accurately and is clearly labeled
  + Equivalent forms are written (percent, ratio, decimal, fraction)
  + Answer statement is written

|  |
| --- |
| *Bachelor Level* |

1. The shaded portion of the grid below represents the portion of a granola bar that has not been eaten yet.



* + 1. What percent of the bar has not been eaten yet?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + 1. What percent of the bar has been eaten?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + 1. Explain how you found your answer to part b.

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| *Master Level* |

1. Which of the answer choices below represent the darker shaded portion of the 100-grid below? Select all that apply.



* 1. 20:100
  2. 80%
  3. 0.02
  4. 20%
  5. 0.2

1. Mr. Brown shares with the class that 70% of the students got an A on the English quiz. If Mr. Brown as 100 students, what percent of the students did not get an A?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**INDEPENDENT PRACTICE**

* **CFS for top quality work**
  + Annotated with *numbers* circled and *terms* underlined
  + ***Model*** is drawn accurately and is clearly labeled
  + Equivalent forms are written (percent, ratio, decimal, fraction)
  + Answer statement is written

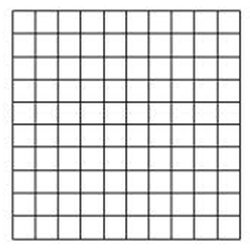
|  |
| --- |
| *Bachelor Level* |

1. Complete the table below

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Percentage** | **Decimal** | **Fraction** | **Ratio** | **Model** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

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| *Master Level* |

1. Marty owns a lawn mowing service. His company, which consists of three employees, has 100 lawns to mow this week. Employee 1 mows 12 lawns. Employee two mows 43% of the lawns. Employee 3 mows the rest of the lawns. Use the 10 x 10 grid to model how the work is been distributed between the three employees and complete the table.



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Worker** | **Percentage** | **Ratio** | **Fraction** | **Decimal** |
| **Employee 1** |  |  |  |  |
| **Employee 2** |  |  |  |  |
| **Employee 3** |  |  |  |  |

1. After renovations on Kim’s bedroom, only 60 percent of one wall is left without any décor. What percent of the wall was decorated? Explain how you know.

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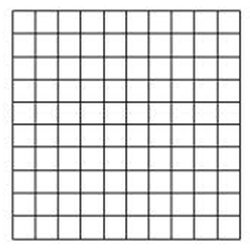
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1. Marissa just bought 100 acres of land. She wants to grow apple, peach, and cherry trees on her land. Using the information provided in the table, color the model to show how the acres are distributed for each type of tree and complete the table.



|  |  |  |  |
| --- | --- | --- | --- |
| **Tree** | **Percentage** | **Fraction** | **Decimal** |
| **Apple** | 15% |  |  |
| **Peach** |  |  |  |
| **Cherry** |  |  | 0.53 |

1. Which of the answer choices below represent the darker shaded portion of the 100-grid below? Select all that apply.



* 1. 0.4
  2. 4%
  3. 40:1
  4. 4:10
  5. 40%
  6. 40:100

1. Complete the table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Percentage** | **Decimal** | **Fraction** | **Ratio** | **Model** |
|  |  |  |  | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  | |
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| *PhD Level* |

1. How would you write 600% as a ratio, fraction, and decimal? How would you model 600% using a model?

Explain how you came up with your answers.

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* **CFS for top quality work**
  + Annotated with *numbers* circled and *terms* underlined
  + ***Model*** is drawn accurately and is clearly labeled
  + Equivalent forms are written (percent, ratio, decimal, fraction)
  + Answer statement is written

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

**EXIT TICKET**

|  |  |  |  |
| --- | --- | --- | --- |
| 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. One hundred offices need to be painted. The workers choose between yellow, blue, or beige paint. They decide that of the offices will be painted yellow; 28% will be painted blue, and the remaining offices will be painted beige. Create a model that shows the percent of offices that will be painted each color. Write the amounts as decimals and fractions.

