Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_ Date: \_\_\_\_\_\_

**4.3B Graphing Proportional Relationships\_Classwork**

*Objective: Graph proportional relationships, interpret the unit rate as the slope. Compare two different proportional relationships represented in different ways. (CCSS: 8.EE.5)*

*HW: (4.3B) p.162 #1, 3 – 6, 8 – 10 (solutions on p. A20)*

***WARM-UP: For the equations below, solve for y.***

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| --- | --- | --- |
| Example. 3x – 3y = 15  -3x -3x  -3y = -3x + 15  -3 -3 -3  y = x – 5  Slope: 1 y-intercept: -5 | 1. 2x – y = 5  Slope: y-intercept: | 2. -6x + 3y = - 12  Slope: y-intercept: |

|  |  |  |
| --- | --- | --- |
| **EXAMPLE 1:** The weight *y* of an object on Titan, one of Saturn’s moons, is proportional to the weight *x* of the object on Earth. An object that weighs 105 pounds on Earth would weigh 15 pounds on Titan.   |  |  | | --- | --- | | 1. *Write an equation that represents the situation.* | 1. *How much would a spacecraft that weighs 3500 pounds on Earth, weigh on Titan?* | |
| **EXAMPLE 2:** The cost *y* (in dollars) to rent a luxury sports car is proportional to the number of days *x* that the car is rented. It costs $355 to rent the car for 5 days.   |  |  | | --- | --- | | 1. *Write an equation that represents the cost to rent a luxury sports car for x days.* | 1. *How much would it cost to rent the car for 1 week?* | |
| **EXAMPLE 3:** The daily wage y (in dollars) of a factory worker is proportional to the number of parts x assembled in a day. A worker who assembles 250 parts in a day earns $75.   |  |  | | --- | --- | | 1. *Write an equation that represents the situation?* | 1. *How much does a worker earn who assembles 300 parts in a day?* | |
| **EXAMPLE 4:** Watch the video for Example 3 (Section 4.3) then do #3  A maple tree grows 1.5 feet each year. The table shows the yearly growth for a pine tree.     1. *Which tree grows faster?* 2. *Graph maple and pine tree on the same graph.* 3. *Write equations that represent the growth rates of each tree.*   *Maple tree equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *Pine tree equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*   1. *Compare the steepness of the graphs. What does this mean in the context of the problem?* |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table# \_\_\_\_\_\_ Per \_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_

**4.3B HW** p.162 #1, 3 – 6, 8 – 10 (solutions on p. A20)

1. \_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

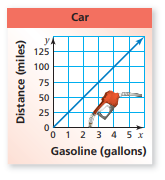
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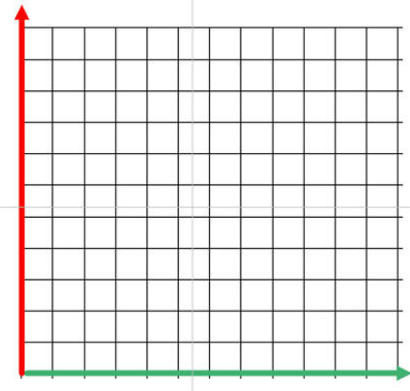
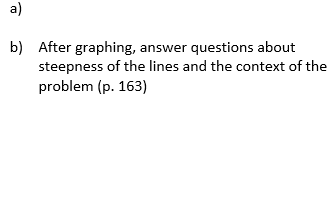
8a, 8b, 8c

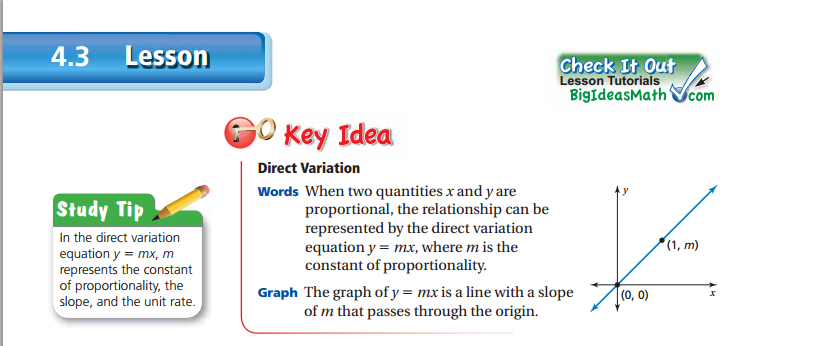
9a & 9b.

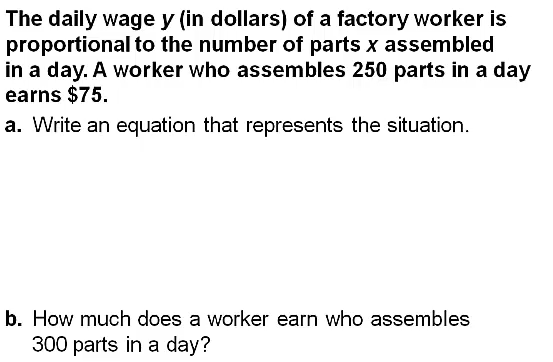


10a & 10b

Toenails: 13 millimeters per year (hint: write an equation or make a table) Fingernails: see table (p. 163)





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