**EQUIVALENT LINEAR RELATIONS (Standard Form **

A health food store is making a mix of nuts and raisins. Nuts are $30/kg and raisins are $10/kg. The total mix should cost $150.

1. What combinations of nuts and raisins cost $150 if  represents the mass of raisins and  represents the mass of nuts?

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| **Mass of Nuts (kg)** | **Mass of Raisins (kg)** |
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1. Write an equation representing the relation between the mass of nuts and the mass of raisins with the total cost of $150.
2. If Annie chose to purchase only nuts worth $150, what mass of nuts can she purchase?

If Xavier chose to purchase only raisins worth $150, what mass of raisins can he purchase?

1. Add the values found in (C) to your table of values and graph the relation below.



1. Rewrite your equation found in (B) in slope y-intercept form, .

Mass of Raisins

(kg)

1. What does the slope represent?
2. What does the y-intercept represent?
3. What does the x-intercept represent?

Mass of Nuts (kg)

Robert and Jack work at Cycle Path. The owner will pay them $130 a day to fix bicycles. For every bike gear they fix they will earn $3.25 and for every wheel they put on a bike they will earn $2.

1. Determine four possible ways they can earn the $130/day by fixing the gears and wheels on bicycles. Add these values to a table of values.

|  |  |
| --- | --- |
| **Number of Gears** | **Number of wheels** |
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|  |  |
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|  |  |

1. Graph your relation on the grid provided.



1. Rewrite your equation in the form .
2. Interpret the value of  for this situation.
3. Interpret the value of the x-intercept for this situation.