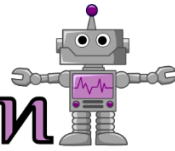


# STEM-ersion



Name \_\_\_\_\_

Date \_\_\_\_\_

w/ Solving Systems of Equations with Substitution

**Accountant**

Jami is an accountant at a mid-sized firm and has been hired by an investor to make recommendations about five local small businesses. These businesses are all in debt, but the investor sees potential in each idea. The investor wants to know when each company is projected to break even and would prefer companies that will turn a profit within the next 24 months. The investor secured the expense and revenue reports of each of the businesses to review.

Jami has created linear models to project the Cost and Revenue of each business and now must use the results to finalize her findings. In each equation  $x$  represents months. What should her recommendation be? How do the businesses rank?

	Appster (Technology Start-up)	Enrich (Education Program)	Green Team (Alternate Energy)	Southwest Fusion (Restaurant)	Zoo to You (Children's Parties)
Cost	$y = 13124 + 3190x$	$y = 69419 + 15384x$	$y = 178420 + 64421x$	$y = 42891 + 15387x$	$y = 5420 + 9539x$
Revenue	$y = 3586x$	$y = 21954x$	$y = 68419x$	$y = 13174x$	$y = 10381x$

Use this space to make any calculations and show work.

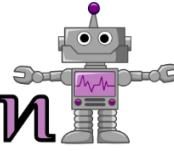
**Evidence**

Interpret the Evidence. What does it mean?

**Analysis**  
of the evidence

**Conclusion**  
or Recommendation

# STEM-version



Name \_\_\_\_\_

# KEY

w/ Solving Systems of Equations with Substitution

ACCOUNTANT

Jami is an accountant at a mid-sized firm and has been asked by an investor to make recommendations about five local small businesses. These businesses are: Appster (Technology Start-up), Enrich (Education Program), Green Team (Alternate Energy), Southwest Fusion (Restaurant), and Zoo to You (Children's Parties). The investor wants to know when each company is projected to break even and to identify the most profitable companies that will turn a profit within the next 24 months. The investor sends Jami the projected cost and revenue reports of each of the businesses to review.

Jami has created a table below showing the projected Cost and Revenue of each business and now must use the results to finalize her financial report. In each report, she must identify the break-even point for each business. What should her recommendation be? How do the businesses rank?

	Appster (Technology Start-up)	Enrich (Education Program)	Green Team (Alternate Energy)	Southwest Fusion (Restaurant)	Zoo to You (Children's Parties)
Cost	$y = 13124 + 3190x$	$y = 69419 + 15384x$	$y = 178420 + 64421x$	$y = 42891 + 15387x$	$y = 5420 + 9539x$
Revenue	$y = 3586x$	$y = 21954x$	$y = 68419x$	$y = 13174x$	$y = 10381x$

Use this space to make any calculations and show work.

Appster is projected to break even in 33.141 months

Enrich is projected to break even in 10.566 months

Green Team is projected to break even in 44.627 months.

Peruvian Fusion is projected to break even in -19 months!!! They will never break even.

Zoo to You is projected to break even in 6.437 months.

Evidence

Conclusion

or Recommendation

Interpret the Evidence. What does it mean?

Answers will vary.

Students could rank the break even points...

They could describe the break even points...

Analysis  
of the evidence

If the investor desires to break even within 24 months Enrich or Zoo to You seems to be the best bet.