Algebra 1 ECA Remediation
Homework 20.3

Name Answer Key

1. Several students decide to start a T-shirt company. After initial expenses of $150, they purchase each T-shirt wholesale for $4.99. They sell each T-shirt for $12.99. How many T-shirts must they sell to break even?

Cost $150 on time
$4.99 per t-shirt.
Income $12.99 per t-shirt

19 t-shirts need to sold to break even

Cost = $4.99x + 150$
Income = $12.99x$

$12.99x = 4.99x + 150$
$-4.99x \quad -4.99x$

$\frac{8x}{8} = \frac{150}{8}$

$x = 18.75$

2. Suppose you are starting an office-cleaning service. You have spent $227 on equipment. To clean an office, you use $3.50 worth of supplies. You charge $30 per office. How many offices must you clean to break even?

Cost $227 on time
$3.50 per office
Income $30 per office

9 offices need to be cleaned to break even

Cost = $3.50x + 227$
Income = $30x$

$30x = 3.50x + 227$
$-3.50x \quad -3.50x$

$\frac{26.50x}{26.50} = \frac{227}{26.50}$

$x = 8.56$

3. Suppose you invest $1250 in equipment to put pictures on T-shirts. You buy each T-shirt for $4.50. After you have placed the picture on a shirt, you sell it for $19.50. How many T-shirts must you sell to break even?

Cost $1250 on time
$4.50 per t-shirt
Income $19.50 per t-shirt

84 t-shirts need to be sold to break even.

Cost = $4.50x + 1250$
Income = $19.50x$

$19.50x = 4.50x + 1250$
$-4.50x \quad -4.50x$

$\frac{15x}{15} = \frac{1250}{15}$

$x = 83.\overline{3}$