1. $\frac{r+14}{13} = 2$

$$\frac{r+14}{13} = 2$$

mult. each side by 13

$$\frac{13(r+14)}{13} = 2 \times 13$$

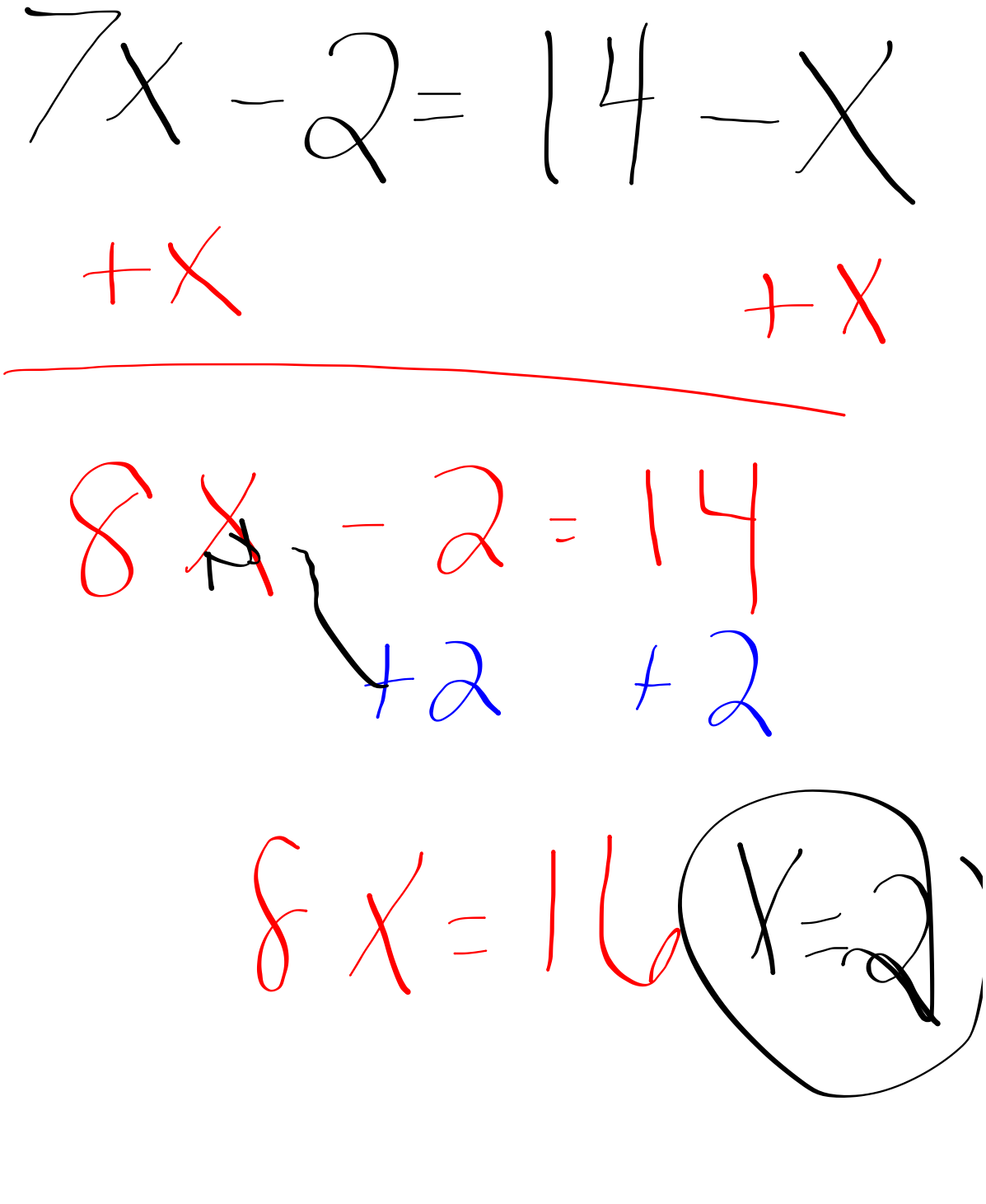
simplify

$$r+14=26$$

subtract 14 from each

$$r+14=26$$
$$-14 \quad -14$$
$$r=12$$

2. $7x - 2 = 14 - x$



3. $3(2y-2) = -2(4y-11)$

$3(2y-2) = -2(4y-11)$

$3(2y) - 3(2) = -2(4y) - (-2)(11)$

$6y - 6 = -8y + 22$

$+8y \quad +8y$

$14y - 6 = 22$

$+6 \quad +6$

$14y = 28 \quad y = 2$

4. $|2b + 5| = 9$

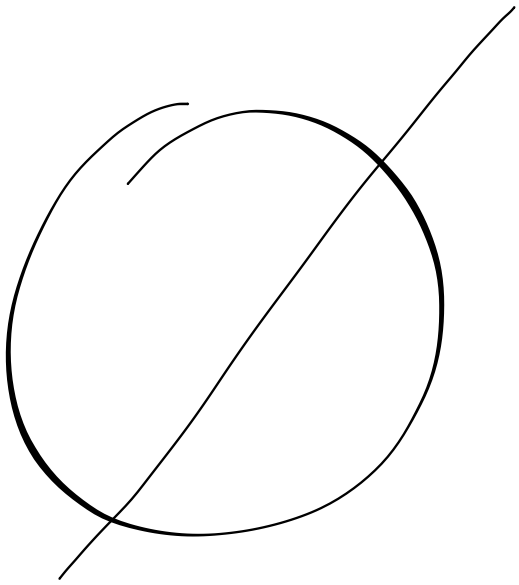
$|2b+5| = 9$

$2b+5 = 9$ $b = 2$

$2b+5 = -9$ $\{2, -7\}$

$2b = -14$ $b = -7$

5. $|4r - 3| = -2$

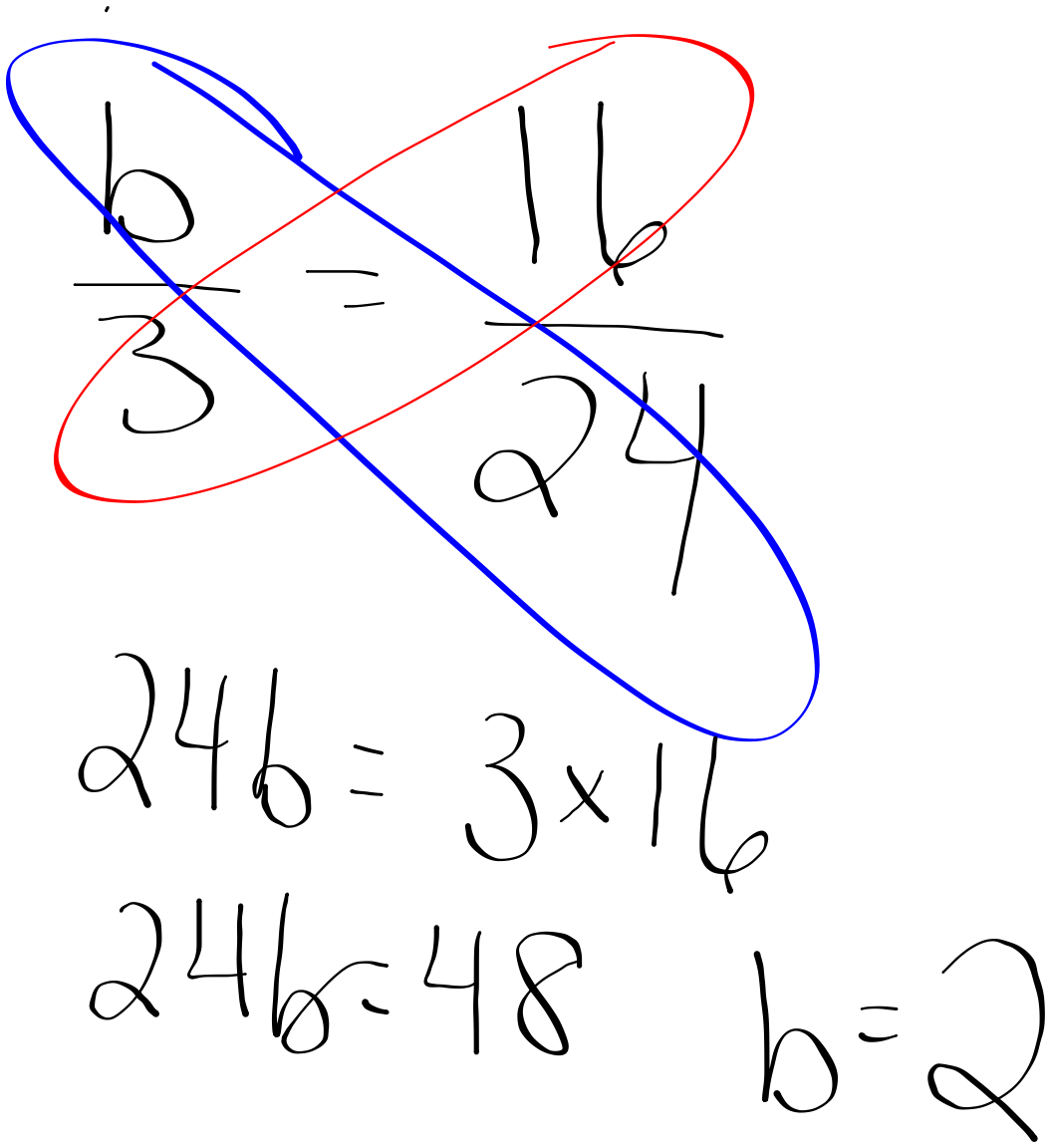


no solution

BS

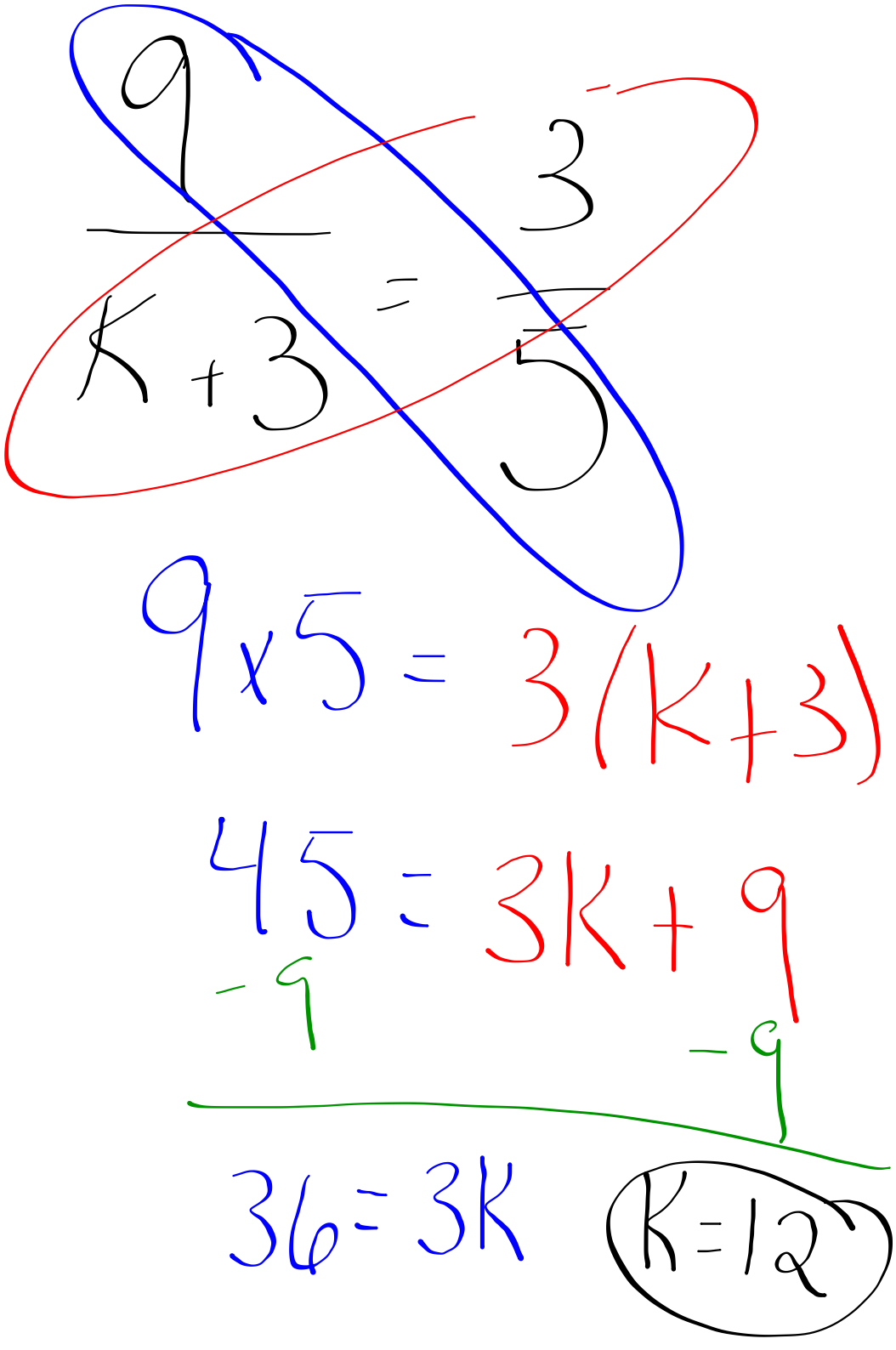
Solve the proportion. Show all work.

6. $\frac{b}{3} = \frac{16}{24}$



Solve the proportion. Show all work.

7. $\frac{9}{k+3} = \frac{3}{5}$



State whether the percent of change is a percent of increase or a percent of decrease. Then find the percent of change. Show all work.

8. Original: 54
   New: 45 8. _____ (___/2)

$$\frac{\text{new} - \text{orig}}{\text{orig}} \times 100\%$$

$$\frac{45-54}{54} \quad \frac{-9}{54} \times 100\%$$

decrease

about 16.7%

Find the total price of the item. Show all work.

9. Samsung Galaxy Note 8 : $950.00 Tax: 5%

105% as a decimal

$950 \times 1.05 = \$997.50$

Solve the equation for the indicated variable. Show all work.

10. $5x - 3y = 9$, solve for y 10._____ (___/2)

$-5x \quad -5x$

$$\frac{-3y = 9 - 5x}{-3} \qquad \frac{}{-3}$$

$$y = -\frac{(9 - 5x)}{3}$$

Solve the equation for the indicated variable. Show all work.

10. $5x - 3y = 9$, solve for y 10._____(___/2)

11. Solve $A = \frac{1}{2}bh$ *for* h. 11. _____(___/2)

$A = \frac{1}{2}bh$ $\frac{2A}{b} = \frac{bh}{b}$

$\frac{2A}{b} = h$

12. **TRAINS** Two commuter trains leave the station at the same time traveling in opposite directions. The northbound train goes 72 mph and the southbound train goes 108 mph. After how long will they be 360 miles apart?

a. Complete the table representing the problem. (___/2)

	Rate x	Time =	Distance
N Train	72	x	72x
S Train	108	x	108x

b. Show all of your work used to solve this problem. (___/1)

$72x + 108x = 360$

$180x = 360$ $\quad x = 2$ hours

13. **TRAINS AGAIN.** Two trains leave Chicago at the same time, one going east and the other west. The train going west travels 30 mph faster than the train going east. If the trains are 260 miles apart after 2 hrs, how fast is each train traveling?

a. Complete the table representing the problem. (___/2)

	Rate x	Time =	Distance
Train East	x	2	$2x$
Train West	$x+30$	2	$2(x+30)$

b. Show all of your work used to solve this problem. (___/1)

$$2x + 2(x+30) = 260$$
$$2x + 2x + 60 = 260$$
$$4x + 60 = 260$$
$$-60 \quad -60$$
$$4x = 200$$
$$x = 50 \text{ mph}$$

80 mph