Bell Work 3-18-19

A-REI.3.5

Pilar says that the two linear systems below have the same solution. Is she correct? Explain.

$$\begin{cases} 3x + 2y = 2 \\ 5x + 4y = 6 \end{cases} \text{ and } \begin{cases} 3x + 2y = 2 \\ 11x + 8y = 10 \end{cases}$$

(-2, 4)

$15x + 10y = 10$
$-15x - 12y = -18$
$-2y = -8$
$-2 \quad -2$
$y = 4$

$3x + 2(4) = 2$
$3x + 8 = 2$
$-8 \quad -8$
$\frac{3x}{3} = \frac{-6}{3}$
$x = -2$

Yes

$-12x - 8y = -8$
$11x + 8y = 10$
$-1x = 2$
$-1 \quad -1$
$x = -2$

Factoring to Solve Quadratic Equations

↳ solving for x-intercepts of the graph

$(y+6)(y-4)=0$

$y+6=0$ $\quad y-4=0$

$-6\ -6$ $\quad +4\ +4$

$y=-6$ $\quad y=4$

$(3f+2)(f-5)=0$

$3f+2=0$ $\quad f-5=0$

$-2\ -2$ $\quad +5\ +5$

$\frac{3f}{3}=\frac{-2}{3}$ $\quad f=5$

$f=-\frac{2}{3}$

$d(d-8)=0$

$d=0$ $\quad d-8=0$

$+8\ +8$

$d=8$

$3m(2m+9)=0$

$\frac{3m}{3}=\frac{0}{3}$ $\quad 2m+9=0$

$m=0$ $\quad -9\ -9$

$\frac{2m}{2}=\frac{9}{2}$ $\quad m=-\frac{9}{2}$

Solve by factoring.

$a^2 - 15a + 56 = 0$

$A=1 \quad B=-15 \quad C=56$

56	-15
1(56)	
7(8)	-7 -8
1 1	

$(a-7)(a-8)=0$

$a-7=0$ $\quad +7 \; +7$

$\boxed{a=7}$

$a-8=0$ $\quad +8 \; +8$

$\boxed{a=8}$

$n^2 + 2n - 15 = 0$

$A=1 \quad B=2 \quad C=-15$

-15	2
3(5)	5 -3
	1 1

$(n+5)(n-3)=0$

$n+5=0$ $\quad -5 \; -5$

$\boxed{n=-5}$

$n-3=0$ $\quad +3 \; +3$

$\boxed{n=3}$

$w^2 + w = 12$

$-12 \quad -12$

$w^2 + w - 12 = 0$

$A = 1 \quad B = 1 \quad C = -12$

-12	1
$1(12)$	
$2(6)$	
$3(4)$	$4, -3$

$(w+4)(w-3) = 0$

$w+4=0 \quad w-3=0$

$-4 \quad -4 \quad +3 \quad +3$

$w = -4 \quad w = 3$

$3j^2 - 20j = -12$

$+12 \quad +12$

$3j^2 - 20j + 12 = 0$

$A = 3 \quad B = -20 \quad C = 12$

$36 \quad -20$

$1(36)$
$6(6)$
$3(12)$
$4(9)$
$2(18)$

$-2, -18$

$(x - \frac{2}{3})(x-6) = 0$

$x - \frac{2}{3} = 0 \quad x - 6 = 0$

$+\frac{2}{3} \quad +\frac{2}{3} \quad +6 = +6$

$x = \frac{2}{3} \quad x = 6$

Bell Work 3-19

A-REI.3.6

A restaurant serves a vegetarian and a chicken lunch special each day. Each vegetarian special is the same price. Each chicken special is the same price. However the price of the vegetarian special is different from the price of the chicken special.

- On Thursday, the restaurant collected $467 selling 21 vegetarian specials and 40 chicken specials.
- On Friday, the restaurant collected $484 selling 28 vegetarian specials and 36 chicken specials.

What is the cost of each lunch special?

V = vegetarian
C = chicken

36(10) = 360
36(5) = 180
360 ÷ 40 = 9

Th $467 = 21v + 40c$ (-9)
F $484 = 28v + 36c$ (10)

$-4203 = -189v - 360c$
$4840 = 280v + 360c$

$637 = 91v$
91

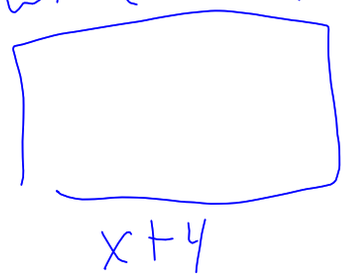
$7 = v$

$467 = 21(7) + 40c$
$467 = 147 + 40c$

veg special = $7
chicken special $8

. The area of the rubber coating for a flat roof was 96 ft². The rectangular frame the carpenter built for the flat roof has dimensions such that the length is 4 feet longer than the width. What are the dimensions of the frame?

width: 8 ft length: 12 ft



$x(x+4) = 96$

$x^2+4x = 96$

$-96 \quad -96$

$x^2+4x-96 = 0$

$A = 1 \quad B = 4 \quad C = -96$

$ac \quad -96 \quad | \quad 4$

$2(48)$
$3(32)$
$8(12) \quad | \quad 12, -8$

$(x+12)(x-8) = 0$

$x+12 = 0 \quad x-8 = 0$

~~$x = -12$~~ $\quad x = 8$

Write each equation in standard form. Then solve.

$21x^2 + 5x - 35 = 3x^2 - 4x$

$-3x^2 \quad +4x \qquad -3x^2 \quad +4x$

$18x^2 + 9x - 35 = 0$

$A = 18 \quad B = 9 \quad C = -35$

$-630 \mid 9$

$18(35)$
$7(90)$
$10(63)$
$21(30) \mid \frac{30}{18} \quad \frac{-21}{18}$

$\frac{30}{18} \rightarrow \div 6 \quad \frac{5}{3}$

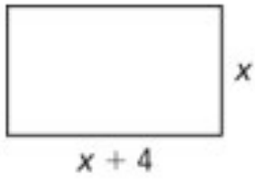
$\frac{-21}{18} \rightarrow \frac{-7}{6}$

$(x + \frac{5}{3})(x - \frac{7}{6}) = 0$

$x = -\frac{5}{3} \qquad x = \frac{7}{6}$

Find the value of x as it relates to each rectangle or triangle.

Area = 60 cm^2



Area = 20 in.^{2}