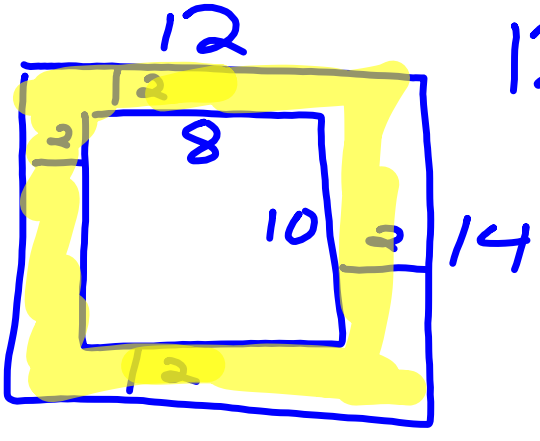
HW: Worksheet/1-7 odd

Warm up:

A photograph 8in wide and 10in long is surrounded by a border 2in wide. Find the area of the border. (Hint: Draw a picture)

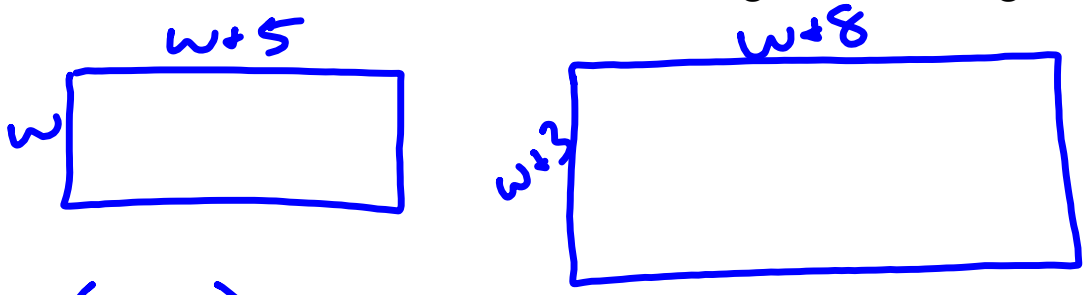


$12 \cdot 14 - 8 \cdot 10$

$168 - 80$

$88 in^2$

A rectangle is 5cm longer than it is wide. If its length and width are both increased by 3cm, its area is increased by $60cm^2$. Find the dimensions of the original rectangle.



$w(w+5)+60=(w+3)(w+8)$

$w^2+5w+60=w^2+8w+3w+24$

$w^2+5w+60=w^2+11w+24$

$-w^2 \quad -5w \qquad -w^2 \quad -5w$

$60=6w+24$

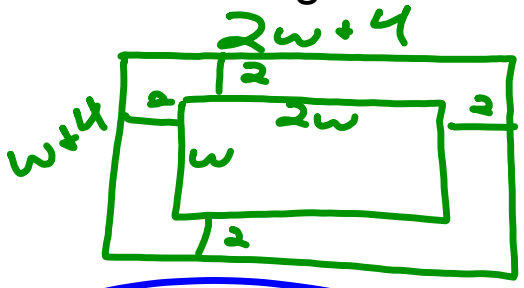
$-24 \qquad -24$

$\frac{36}{6}=\frac{6w}{6}$

$6=w$

6cm x 11cm

Hector made a rectangular fish pond surrounded by a brick walk 2m wide. He had enough bricks for the area of the walk to be 76m^2. Find the dimensions of the pond if it is twice as long as it is wide.



5m × 10m

$2w^2+8w+4w+16$

$(2w+4)(w+4)-w(2w)=76$

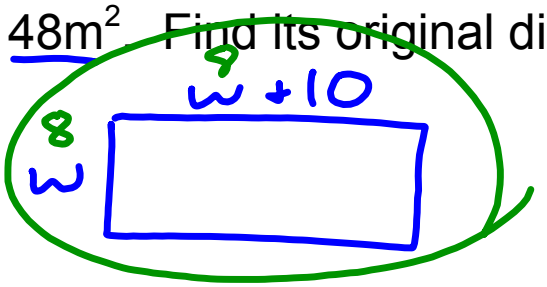
$2w^2+12w+16-2w^2=76$

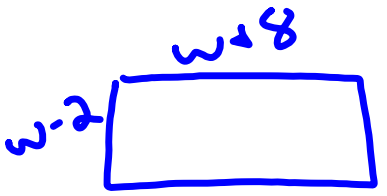
$-16 \quad -16$

$\frac{12w}{12}=\frac{60}{12}$

$w=5$

A rectangle is 10m longer than it is wide. If its length and width are both decreased by 2m, its area is decreased by $48m^2$. Find its original dimensions.





$8m \times 18m$

$w(w+10) - (w-2)(w+8) = 48$

$w^2 + 10w - (w^2 + 6w - 16) = 48$

$w^2 + 10w - w^2 - 6w + 16 = 48$

$4w + 16 = 48$

$-16 \quad -16$

$\frac{4w}{4} = \frac{32}{4}$

$w = 8$

HW Solutions

9

	r	t	d
T	$\frac{1}{2}h$	1	$\frac{1}{2}h$
H	h	4	$4h$

$\frac{1}{2}h + 4h = 387$

$\frac{2}{9}\left(\frac{9}{2}h\right) = (387)\frac{2}{9}$

$h = 86$

43 km/h

9

10:30am

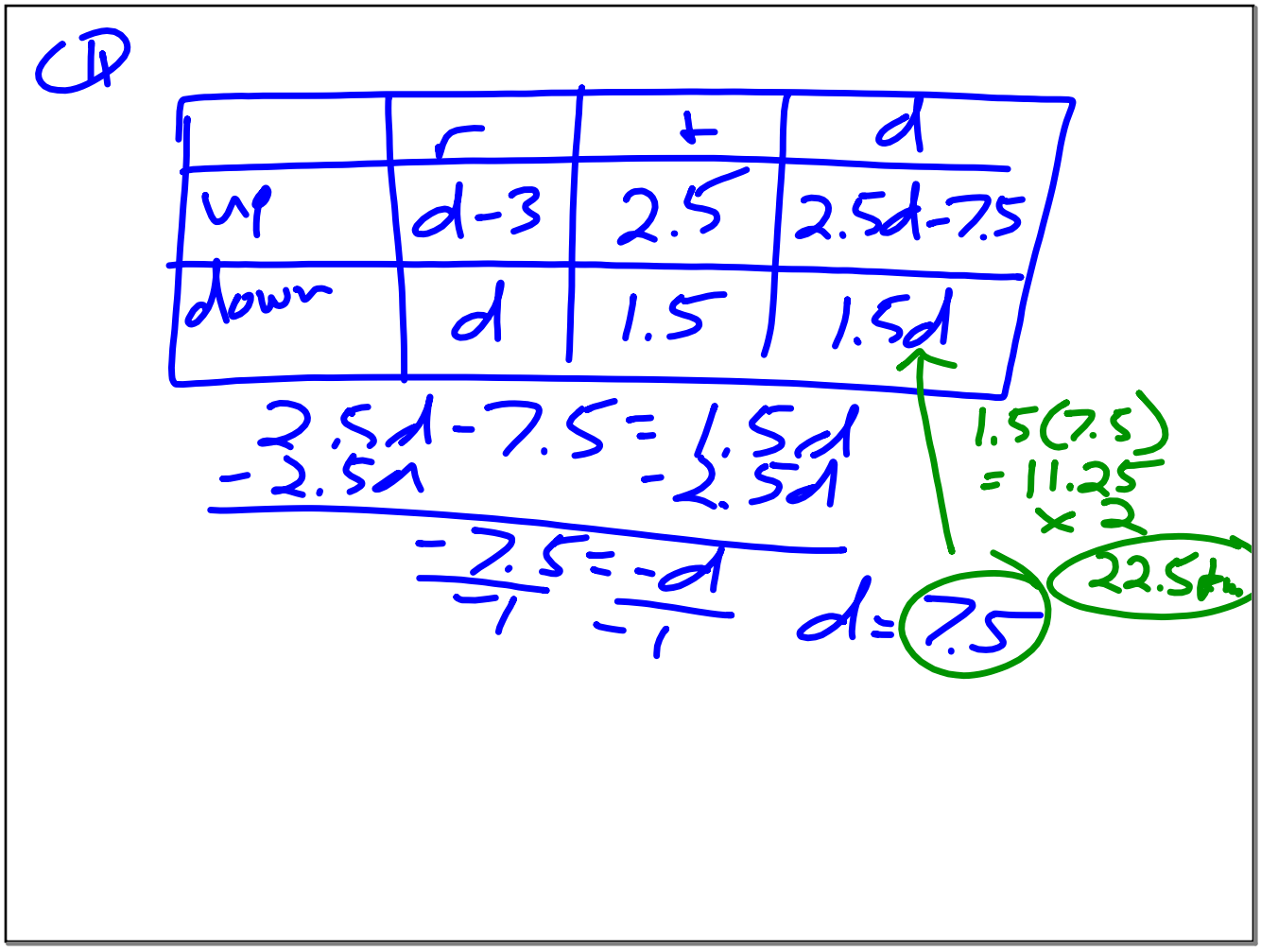
	r	t	d
A	12	a	$12a$
S	16	$a-\frac{1}{2}$	$16a-8$

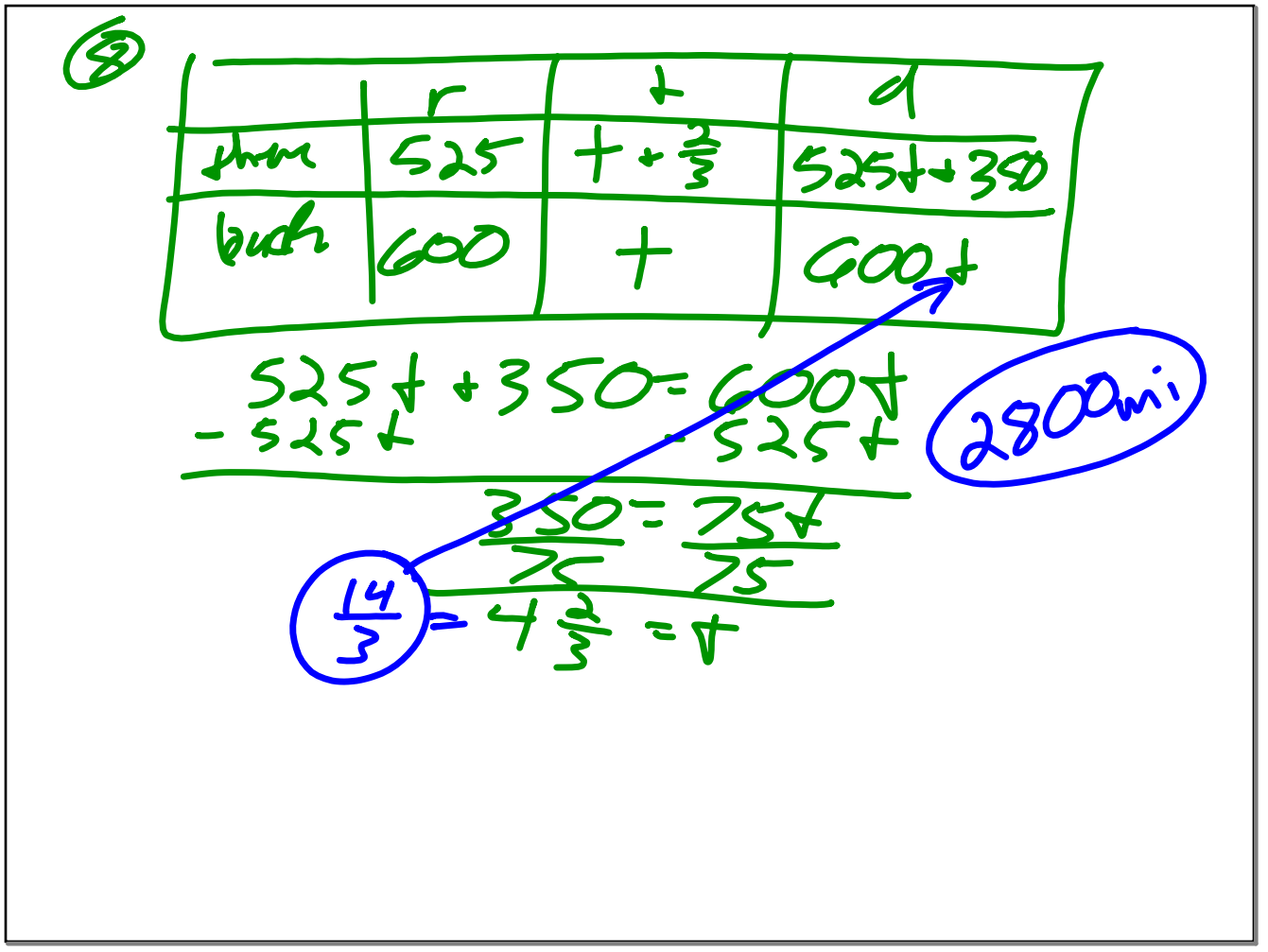
$12a + 16a - 8 = 20$

$+8 \quad +8$

$\frac{28a}{28} = \frac{28}{28}$

$a = 1$


CP
r
t
d
up
d-3
2.5
2.5d-7.5
down
d
1.5
1.5d
2.5d-7.5=1.5d
-2.5d -2.5d
-7.5=-d
-1 -1
d=7.5
1.5(7.5)
=11.25
x 2
22.5km


8
r
t
d
them
525
$t + \frac{2}{3}$
$525t + 350$
Ruth
600
t
$600t$
$525t + 350 = 600t$
$-525t \quad -525t$
$\frac{350}{75} = \frac{75t}{75}$
$\frac{14}{3} = 4\frac{2}{3} = t$
2800mi

(13)

	r	t	d
now	66	t	$66t$
later	90	$t-\frac{2}{3}$	$90t-60$

$66t = 90t - 60$

$-90t \quad -90t$

$\frac{-24t}{-24} = \frac{-60}{-24}$

$t = \frac{5}{2} = 2.5$

165 km

10

	r	t	d
A→B	r	2	2r
B→A	r+6	1.5	1.5r+9

2·18 = 36 km

$2r = 1.5r + 9$

$-1.5r \quad -1.5r$

$0.5r = 9$

$\frac{0.5r}{0.5} = \frac{9}{0.5}$

$r = 18$