homework 7-28 through 7-39

7-28

a) youre reflecting a 90° angle over a line, it preserves angle measure so it forms a 180° angle.

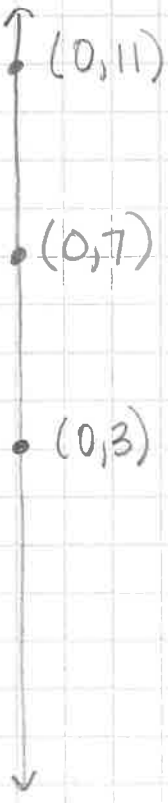
b) congruent (b/c of rigid transformation presents angle measure and side length)

c) $\triangle XYZ \cong \triangle X'Y'Z'$

$\angle X = \angle X'$ $\quad XY = X'Y'$
$\angle Y = \angle Y'$ $\quad YZ = Y'Z'$
$\angle Z = \angle Z'$ $\quad XZ = X'Z'$

$\angle YXZ \cong \angle Y'X'Z'$ $\quad \angle YZX \cong \angle Y'Z'X$

7-29



7-30

I area of whole square − triangles or outside

$(a+b)^2 - 4\left(\frac{1}{2}ab\right)$

$a^2 + 2ab + b^2 - 2ab$

$a^2 + b^2$

II c^2

7-31

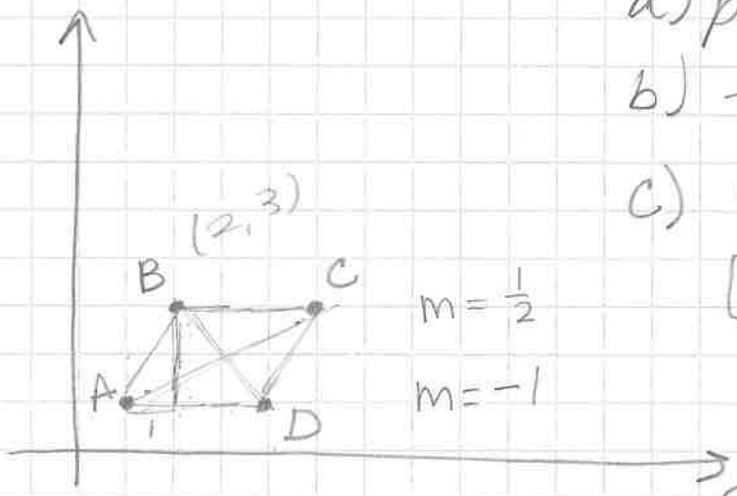
a) SSS~

b) AA~

c) Not enough info

d) ASA $\cong$ or AAS $\cong$

7-32



$\tan\theta = \frac{2}{1}$

$\tan^{-1}(2) \approx 63.43°$

they are equal

a) parallelogram

b) they are equal 63.4°

c) not perpendicular

$\overline{AC}$ = $y = \frac{1}{2}x + \frac{1}{2}$

$1 = \frac{1}{2}(1) + b$

$1 = \frac{1}{2} + b$

$\overline{BC}$ = $y = -x + 5$

$3 = -1(2) + b$

$3 = -2 + b$

$5 = b$

d) $\frac{1}{2}x + \frac{1}{2} = -x + 5$

$1\frac{1}{2}x = 4\frac{1}{2}$ $\frac{9}{2} \cdot \frac{2}{3}$

$x = 3$

$y = 2$

(3, 2)

7-33

a) $-\frac{1}{3}x + 7 = -\frac{1}{3}x - 2$

No solution

Parallel lines

b) $2x + 3 = x^2 - 2x + 3$

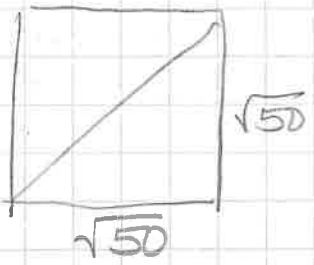
$0 = x^2 - 4x$

$0 = x(x-4)$

$x = 0$ and 4

$(0,3)$ $(4,11)$

7-34

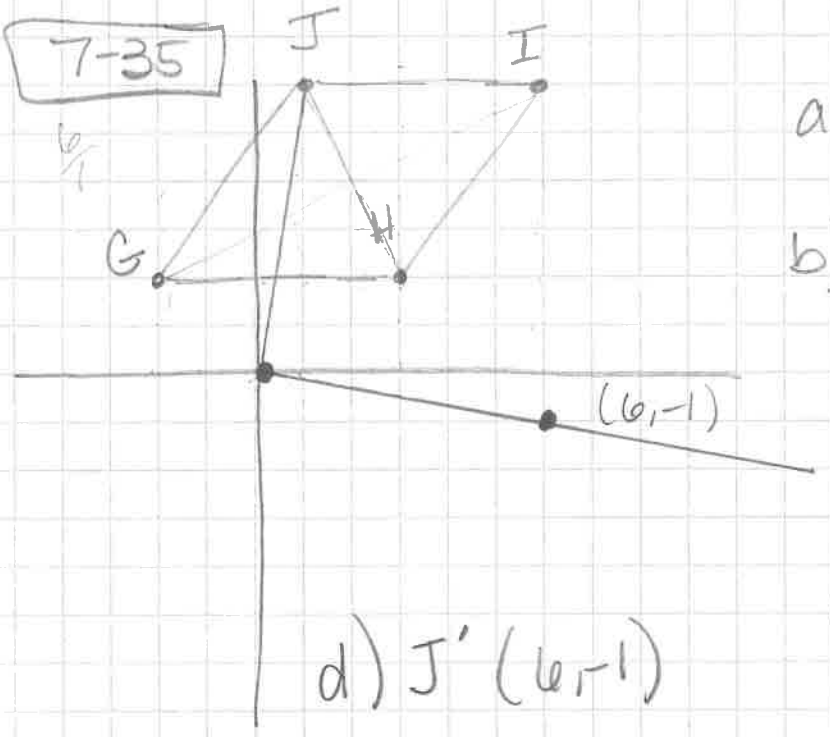


$A = 50$ sq. un

$(\sqrt{50})^2 + (\sqrt{50})^2$

$50 + 50 = \sqrt{100} =$ 10 units

7-35



a) Rhombus
all sides are 5 units

b) $\overline{GI} \Rightarrow$ $y = \frac{1}{2}x + 3$

$m = \frac{1}{2}$ $\quad 2 = \frac{1}{2}(-2) + b$

$(-2,2)$ $\quad 2 = -1 + b$

$3 = b$

$m = -2$ $\quad y = -2x + 8$

$(3,2)$

$2 = -2(3) + b$

$2 = -6 + b$

$8 = b$

d) $J'(6,-1)$

e) 20 un^2

c) diagonals are $\perp$

7-36

a) $\frac{1}{4}$ b) $\frac{2}{4}$ c) $\frac{2}{4}$

equilateral is not considered isosceles

7-37

a) $6n - 3 = n + 17$

$5n = 20$

$\boxed{n = 4}$

b) $7x - 19 + 3x + 14 = 180$

$10x - 5 = 180$

$10x = 185$

$\boxed{x = 18.5}$

$7(18.5) - 19 = 110.5$

c) $3w + 5w + 36 = 180$

$8w + 36 = 180$

$8w = 144$

$\boxed{w = 18}$

$5y - 2 = 110.5$

$5y = 112.5$

$\boxed{y = 22.5}$

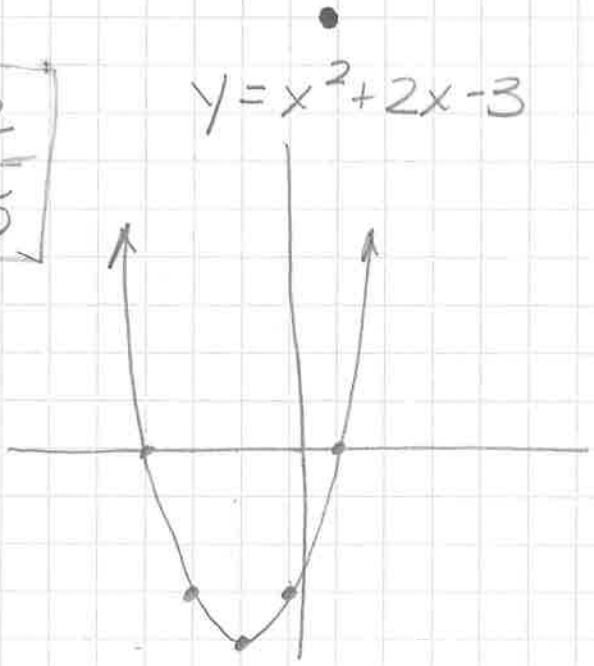
d) don't have to do

7-38

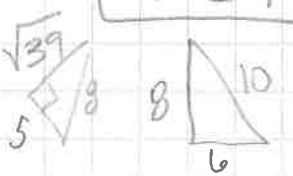
x	-4	3	-2	-1	0	1	2
y	5	0	-3	-4	-3	0	5

roots are -3 and 1

$y = x^2 + 2x - 3$



7-39



$\sqrt{39} + 4 + 10 + 10 + 5$

$\boxed{P \approx 35.24}$