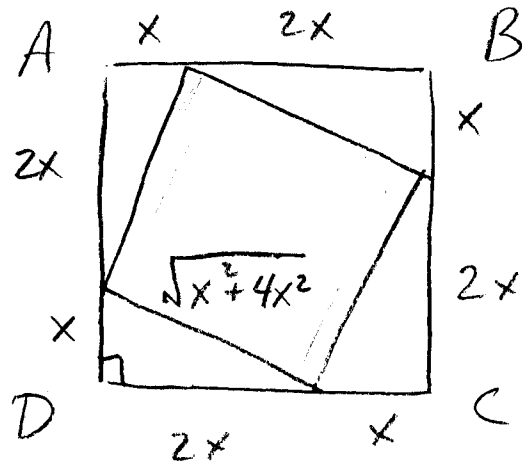


33



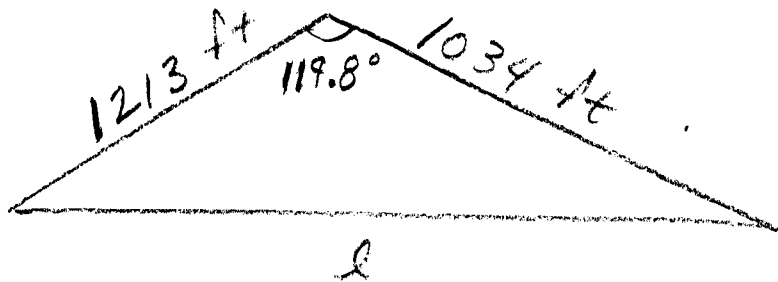
$$\text{Area shaded} \Rightarrow \sqrt{5x^2} \cdot \sqrt{5x^2} = 5x^2$$

$$\text{Area ABCD} \Rightarrow 3x \cdot 3x = 9x^2$$

$$= \frac{5x^2}{9x^2} = \frac{5}{9}$$

(D)

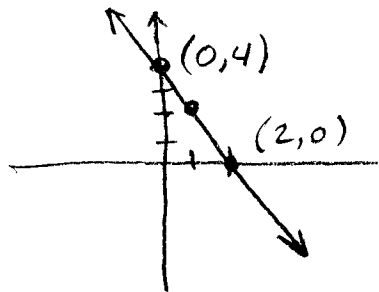
34



Use Law of Cosines (K)

$$l^2 = (1213)^2 + (1034)^2 - 2(1213)(1034)\cos 119.8^\circ$$

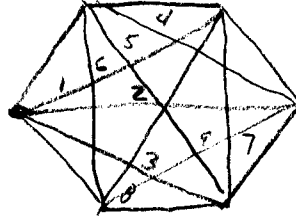
35 graph $2x + y = 4 \therefore y = -2x + 4$



ANS A

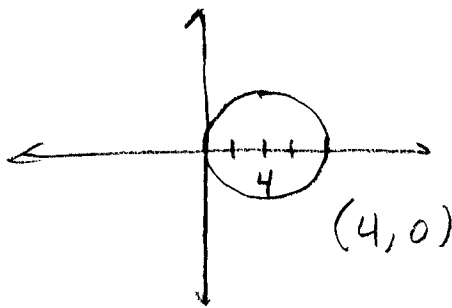
36 LINES separate a plane into half-planes
F

37 Max diagonals



9

38



$$(x-h)^2 + (y-k)^2 = r^2$$

$(x-4)^2 + y^2 = 16$

G

39

$$\rightarrow \frac{5}{3}, \frac{7}{4}, \frac{6}{5}, \frac{9}{8}$$

$$\frac{200}{120}, \frac{210}{120}, \frac{144}{120}, \frac{135}{120}$$

$\frac{9}{8}, \frac{6}{5}, \frac{5}{3}, \frac{7}{4}$

A

40

$$P_{\odot} = \frac{\pi}{2} \sqrt{2(h^2 + w^2)}$$

$$= \frac{\pi}{2} \sqrt{2(16+9)}$$

$$= \frac{\pi}{2} \sqrt{50}$$

\wedge
25 · 2

$\frac{5\pi}{2} \sqrt{2}$

F

$\begin{matrix} \cdot \\ \cdot \end{matrix}$

h

=

4

$|w|$
3

$$(41) \quad \frac{A}{30} + \frac{B}{105} = \frac{7A+2B}{X}$$

$$\frac{7A}{210} + \frac{2B}{210} \Rightarrow \boxed{X = 210} \quad (C)$$

$$(42) \quad \text{Cost} = \$8,795 \quad \text{Borrow} = \$6,500$$

36 mo. $i = 10\%$

Use Table, Find Monthly Payment

$$\Rightarrow 32.27 \text{ per } 1000$$

$$\times 6.5$$

$$16135$$

$$19362$$

$$\boxed{209.755} \approx 209.76$$

(H)

$$(43) \quad 5\% = i, 36, 48, 60 \text{ mo.} \quad \text{Knee } \Rightarrow \leq 300 \text{ \$/mo.}$$

$$\text{MAX BODIES?} \Rightarrow \frac{300}{18.87} \approx 15.898$$

$$= \boxed{15000} \quad (D)$$

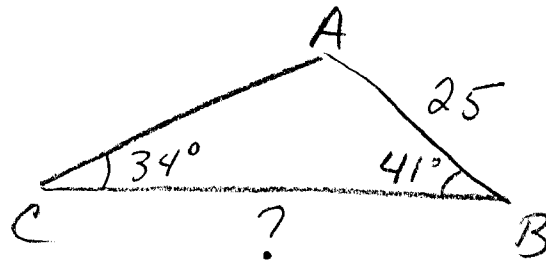
$$(44) \quad 9\% @ 60 \text{ mo (5yr)}$$

$$8\% \Rightarrow 20.28$$

$$10\% \Rightarrow 21.24 \quad \left. \begin{array}{l} 21.24 \\ - 20.28 \end{array} \right\} .96 \div 2 = .48$$

$$\left. \begin{array}{l} 20.28 \\ + .48 \end{array} \right\} \boxed{20.76} \quad (G)$$

(45)



$$A = 180 - (34 + 41)$$

$$A = 105^\circ$$

$$\text{LAW OF SINES} \Rightarrow \frac{\sin 105}{\overline{CB}} = \frac{\sin 34}{25}$$

$$\therefore \boxed{\overline{CB} = \sin 105 \left(\frac{25}{\sin 34} \right)} \quad \text{(B)}$$

$$(46) \quad i^2 = -1, \quad (4+i)^2 = 16 + 8i - 1 = \boxed{15 + 8i} \quad \text{(J)}$$

$$(47) \quad S > 10 \quad 2r + S = 15$$

$$S = 15 - 2r$$

$$r = \frac{15 - S}{2} = 7.5 - \frac{S}{2}$$

Integers

$S > 10$	$7.5 - \frac{S}{2}$
11	2
12	(1.5)
13	0
	\vdots

$\therefore \boxed{r \leq 2} \quad \text{(E)}$

48) + for all x, y if $x > 0, y < 0$
(positive) (negative)

(F) $y - x \Rightarrow (-) - (+)$ NO

(G) $x + y \Rightarrow (-) + (+)$ NO

(H) $x^3 y \Rightarrow (+)^3 (-)$ NO

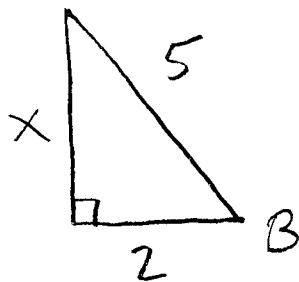
(J) $\frac{x^2}{y} \Rightarrow \frac{(+)^2}{(-)}$ NO

(K) $\frac{x}{y^2} \Rightarrow \frac{(+)}{(-)^2}$ YES

49) $\log_2 8 = ?$ $2^x = 8$

$x = 3$ (A)

50) $\tan B = ?$



$$x^2 + 2^2 = 5^2$$

$$x = \sqrt{21}$$

$\tan B = \frac{\sqrt{21}}{2}$ (F)

$$(51) \quad C = 50 + K\sqrt{t}$$

$$90 = 50 + K\sqrt{16}$$

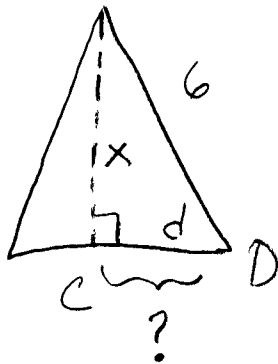
$$90 = 50 + 4K$$

$$\therefore K = 10 \quad \therefore C = 50 + 10\sqrt{t}$$

$$C = 50 + 10\sqrt{36}$$

$$C = 110 \quad (D)$$

(52)



$$\sin D = 0.8 = \frac{8}{10} = \frac{4}{5}$$

$$0.8 = \frac{x}{6} \quad \therefore x = 4.8$$

$$\overline{CD}^2 = 6^2 - 4.8^2$$

$$CD = \sqrt{12.96} \approx 3.6 \quad (H)$$

53) a, b real numbers. What is $|a+b| = |a-b|$ true?

(A) Always $|-3-2| \neq |-3-(-2)|$ NO

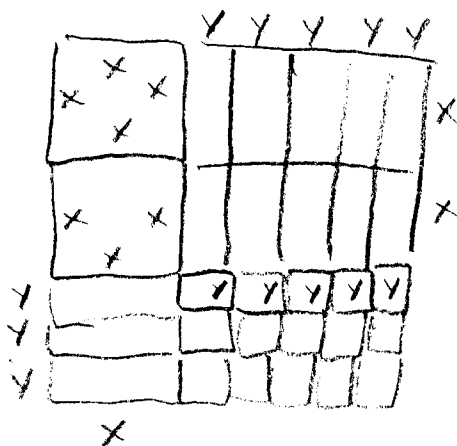
(B) $a=b$ $|-3-3| \neq |-3-(-3)|$ NO

(C) ^{ONLY} $a=0, b=0$ $|0| = |0|$ ✓

(D) a or $b=0$ $|-3-0| = |0-(-3)|$ ✓
^{ONLY} $|5-0| = |0-5|$ ✓

→ Since A and B = 0 meets this too.

54) Area of ABCD



$$2x^2 + 13xy + 15y^2 \quad (K)$$

Area

⑤⑤ $y = (A+1)x + 8$ through $(2, 6)$
 $m = ?$ x, y

$$6 = (A+1)2 + 8$$

$$6 = 2A + 2 + 8$$

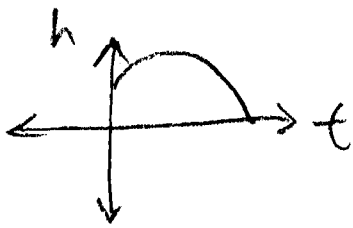
$$6 = 2A + 10$$

$$-4 = 2A \quad A = -2 \quad \therefore m = (-2+1)$$

$m = -1$

 (C)

⑤⑥ $h = -at^2 + bt + c$



$t=0 \Rightarrow (0, c) \Rightarrow$
y intercept
 \equiv (h intercept)

Affects h-intercept, max h, and t-intercept

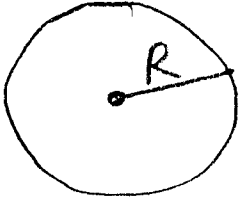
 (K)

(57) $x = -3$
 $y = x - 3$

$y = -3 - 3 = -6$ \therefore $\overset{\text{intersect}}{\boxed{(-3, -6)}}$ (E)

(58) PENTAGON \Rightarrow $\overset{\text{SIDES}}{\Delta} \overset{\text{Degrees}}{3} = 180^\circ$
 $\square 4 = 360^\circ$
 $\square 5 = 540^\circ \therefore 540$
 -50
 $\boxed{490^\circ}$ (K)
 REMAINING
 4 SIDES

(59) b, c reals $3c = b$ $c = \frac{b}{3}$
 $\therefore c + 3$
 terms of $b \Rightarrow \boxed{\frac{b}{3} + 3}$ (E)

(60)  $C = 2\pi R$
 $3C = \boxed{6\pi R}$ (K)

END TEST