Geometry (E)
Area and Perimeter

LEVEL	PROBLEMS
1	#1, 2, 3, 4, 5, 8
2	#3, 4, 5, 7, 8
3	#4, 6, 7, 9

Name: KEY

Period: ____

Area Formulas

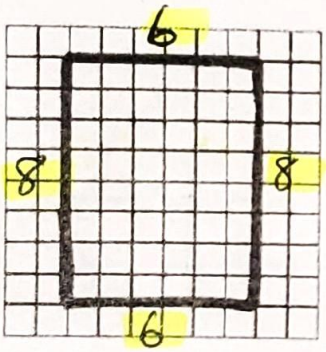
Figure	Formula	Variables
Rectangle	$A = lw$	A = Area l = Length w = Width
Square	$A = s^2$	A = Area s = Side Length
Triangle	$A = \frac{1}{2}bh$ or $A = \frac{1}{2}lw$	A = Area, b = Base, h = Height OR A = Area, l = Length, w = Width

★ ALL AREA IN u^2 AND PERIMETER IN u

Area and Perimeter using Distance Formula

Find the Area and Perimeter of each figure. Round any decimal answers to the nearest tenth unit

1) Area: u^2 Perimeter: u



$A = l \cdot w$

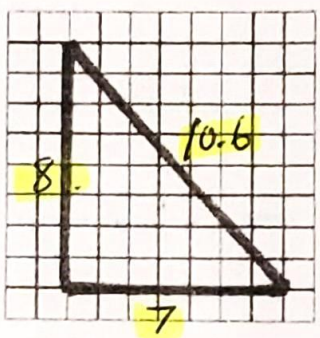
$A = 8 \cdot 6$

$A = 48$ units^2

$P = 8 + 6 + 8 + 6$

$P = 28$ units

2)



$A = \frac{1}{2} \cdot l \cdot w$

$A = \frac{1}{2} \cdot 7 \cdot 8$

$A = 28$ u^2

$7^2 + 8^2 = c^2$

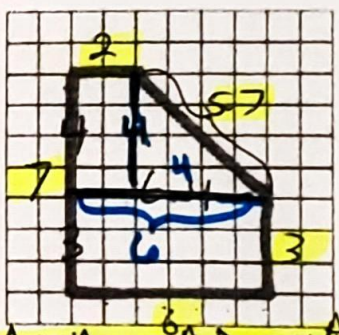
$c^2 = 113$

$c = \sqrt{113}$ or 10.6

$P = 7 + 8 + 10.6$

$P = 25.6$ u

3)



$A_T = A_{\square} + A_{\triangle} + A_{\square}$

$A = l \cdot w + \frac{1}{2} \cdot l \cdot w + l \cdot w$

$A = 6 \cdot 3 + \frac{1}{2} \cdot 4 \cdot 4 + 2 \cdot 4$

$A = 18 + 8 + 8$

$A = 34$ u^2 or $A = 7 \cdot 6 - \frac{1}{2} \cdot 4 \cdot 4$, $A = 42 - 8$, $A = 34$

$4^2 + 4^2 = c^2$

$c^2 = 32$

$c = \sqrt{32}$ or 5.7

$P = 7 + 6 + 2 + 3 + 5.7$

$P = 23.7$ u

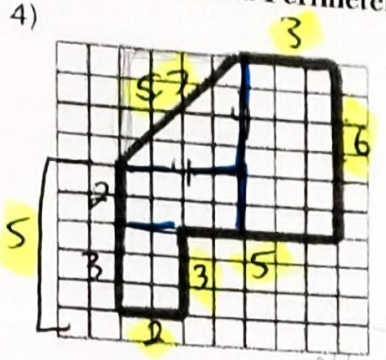
Area: Space inside

Perimeter: Distance around a figure (Add all outside lengths)

Area and Perimeter using Distance Formula

Find the Area and Perimeter of each figure. Round any decimal answers to the nearest tenth unit.

4)



$4^2+4^2=c^2$

$c=\sqrt{32}$ or 5.7

$A_T = A_\square + A_\square + A_\square + A_\triangle$

$A = 2\cdot3 + 4\cdot2 + 3\cdot6 + \frac{1}{2}\cdot4\cdot4$

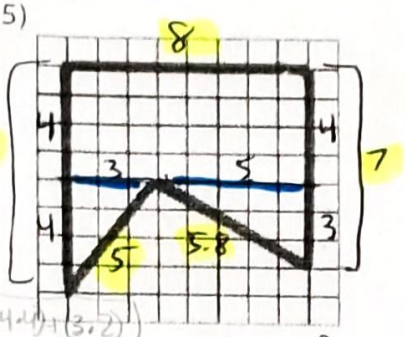
$A = 6 + 8 + 18 + 8$

$A = 40\ u^2$

$P = 3+6+5+3+2+5+5.7$

$P = 29.7\ u$

5)



$3^2+4^2=c^2$ $\quad 3^2+5^2=c^2$

$c=\sqrt{25}$ $\quad c=\sqrt{34}$

$c=5$ $\quad c=5.8$

$A_T = A_\square + A_\triangle + A_\square$

$A = 8\cdot4 + \frac{1}{2}\cdot3\cdot4 + \frac{1}{2}\cdot5\cdot3$

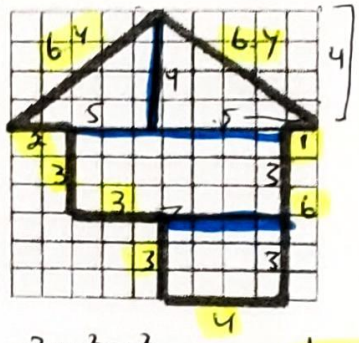
$A = 32 + 6 + 7.5$

$A = 45.5\ u^2$

$P = 8+7+5.8+5+8$

$P = 33.8\ u$

6)



$5^2+4^2=c^2$

$c=\sqrt{41}$

$c=6.4$

$A_T = A_\triangle + A_\square + A_\square$

2 $\triangle$'s $A = \frac{1}{2}(10.4)+(7.3)+(3.4)$ or

$A_T = A_\square + A_\square + 2A_\triangle$

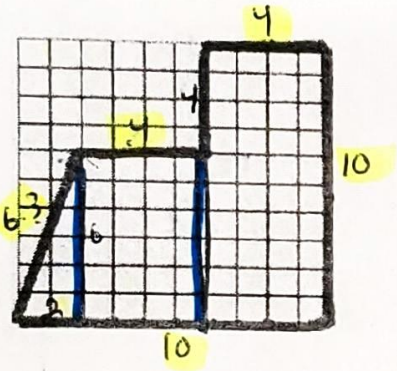
$A = 4\cdot3 + 7\cdot3 + 2\cdot\frac{1}{2}\cdot5\cdot4$

$A = 12 + 21 + 20$ $\quad A = 53\ u^2$

$P = 6.4+6.4+1+6+4+3+4+3+3+3+2$

$P = 34.8\ u$

7)



$2^2+6^2=c^2$

$c=\sqrt{40}$

$c=6.3$

$A_T = A_\square + A_\square + A_\triangle$

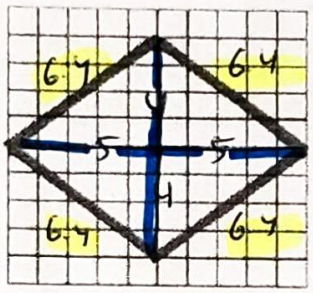
$A = 4\cdot10 + 4\cdot6 + \frac{1}{2}\cdot2\cdot6$

$A = 40 + 24 + 6$ $\quad A = 70\ u^2$

$P = 4+4+4+10+10+6.3$

$P = 38.3\ u$

8)



$4^2+5^2=c^2$

$c=\sqrt{41}$

$c=6.4$

$A_T = A_\triangle + A_\square + A_\square + A_\square$

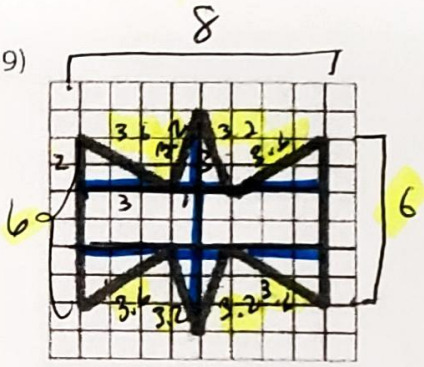
$A = 4\left(\frac{1}{2}\cdot5\cdot4\right)$ $\quad A = 40\ u^2$

$P = (6.4)\cdot4$ $\quad P = 25.6\ u$

or

$P = 6.4+6.4+6.4+6.4$

9)



$2^2+3^2=c^2$ $\quad 1^2+3^2=c^2$

$c=\sqrt{13}$ $\quad c=\sqrt{10}$

$c=3.6$ $\quad c=3.2$

$A_T = A_\square + 4A_\square + 4A_\triangle$

$A = 8\cdot2 + 4\cdot\frac{1}{2}(3.2) + 4\cdot\frac{1}{2}\cdot1\cdot3$

MIDDLE RECT — UPPER CORNER $\triangle$'s — MIDDLE $\triangle$'s

$A = 16 + 12 + 6$ $\quad A = 34\ u^2$

$P = 2(6) + 4(3.6) + 4(3.2)$

$P = 12 + 14.4 + 12.8$

$P = 39.2$ or $39.0\ u$