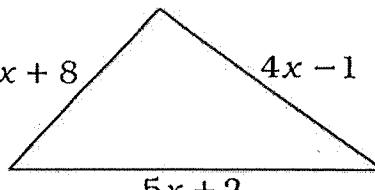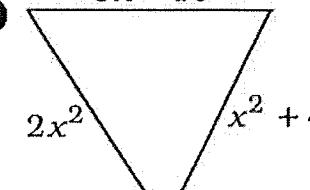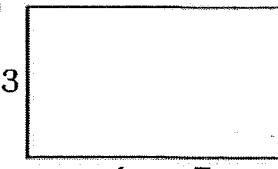# Mystery Message

KEY

Do each exercise and find your answer at the bottom of the page. Write the letter of the exercise in the box above the answer. (Assume that figures that appear to be rectangular are rectangles.)
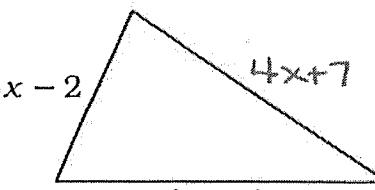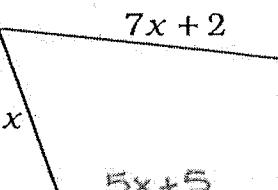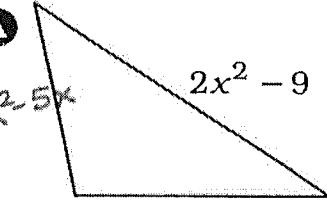
Part 1. Find the perimeter.

E

$3x + 8$ $4x - 1$ $5x + 2$

$P = 12x + 9$

O

$9x - 10$ $2x^2$ $x^2 + 4$

$P = 3x^2 + 9x - 6$

I

$2x - 3$ $4x - 7$

$P = 12x - 20$

Part 2. Find the missing side length. The perimeter, P, is given.

S

$3x - 2$ $4x + 7$ $6x + 6$

$P = 13x + 11$

D

$7x + 2$ $5x$ $4x - 5$ $5x + 5$

$P = 21x + 2$

A

$2x^2 - 9$ $x^2 - 5x$ $3x + 4$

$P = 3x^2 - 2x - 5$

Part 3. Find the area.

E

$3x$ $8x - 5$

$A = 24x^2 - 15x$

S

$2x^2$ $x^2 + 7x + 4$

$A = 2x^4 + 14x^3 + 8x^2$

Q

$4x$ x $2x$ x $2x$ x

$A = 7x^2$
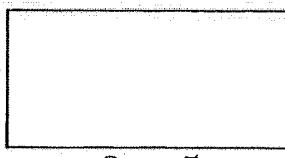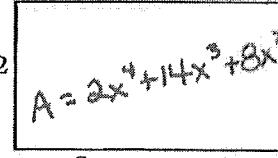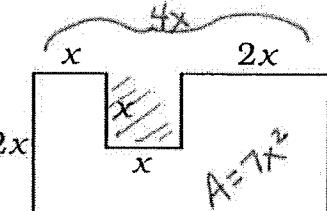
Part 4. Find the area of the shaded region.

R

$A = 116x^2 + 53x$

$9x$ $7x - 2$ $4x$ $16x + 5$

W

$A = 66x^3 + 40x^2 + 24x$

$6x^2$ $10x^2 - 3x$ 8 $11x + 20$

R

$A = 11x^2 - 44x$

$3x$ x x $x + 2$ $x + 2$ $x + 2$ $x + 2$ x x $5x - 12$

Q	S		A	R	E		W	E	I	R	D		O	S
$7x^2$	$4x + 7$	$9x^2 - 40x$	$x^2 - 5x$	$116x^2 + 53x$	$12x + 9$	$2x^4 + 9x^3 + 12x^2$	$66x^3 + 40x^2 + 24x$	$24x^2 - 15x$	$12x - 20$	$11x^2 - 44x$	$5x + 5$	$64x^3 + 36x^2 + 30x$	$3x^2 + 9x - 6$	$2x^4 + 14x^3 + 8x^2$

??

Q's are weird O's

12.6
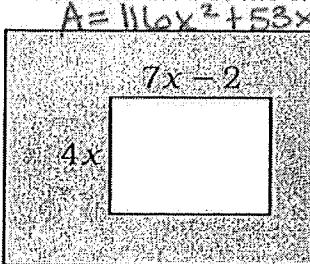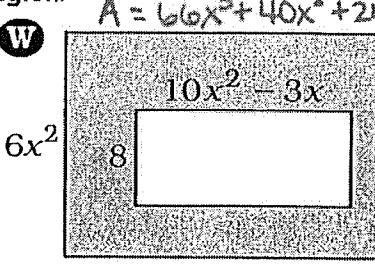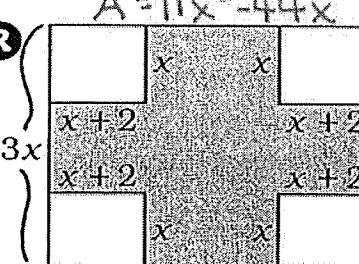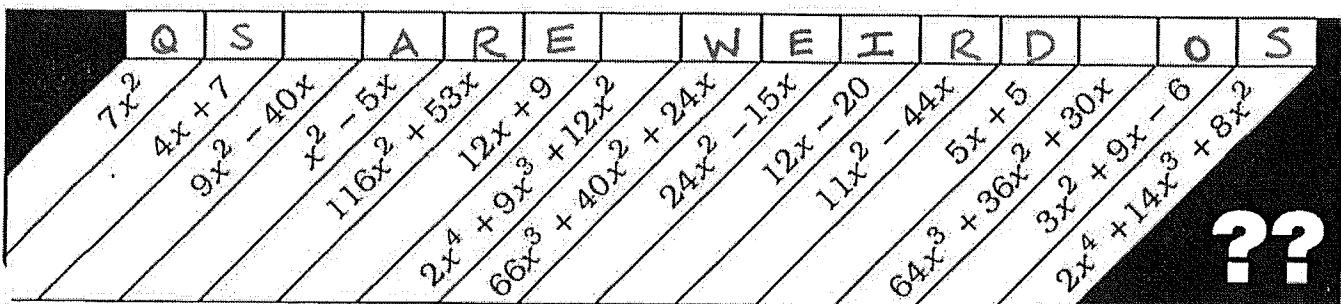
Part 1: (E) $P = (3x+8)+(4x-1)+(5x+2) = 12x+9$

(O) $P = (9x-10)+(2x^2)+(x^2+4) = 3x^2+9x-6$

(I) $P = (2x-3)+(4x-7)+(2x-3)+(4x-7) = 12x-20$

Part 2: (S) $P-sides = (13x+11)-(6x+6)-(3x-2) = 13x+11-6x-6-3x+2$
$$= 4x+7$$

(D) $(21x+2)-(5x)-(7x+2)-(4x-5) = 21x+2-5x-7x-2-4x+5$
$$= 5x+5$$

(A) $(3x^2-2x-5)-(3x+4)-(2x^2-9) = 3x^2-2x-5-3x-4-2x^2+9$
$$= x^2-5x$$

Part 3: (F) $A = \ell \cdot w = (3x)(8x-5) = 24x^2-15x$

(S) $A = (2x^2)(x^2+7x+4) = 2x^4+14x^3+8x^2$

(Q) $A = (2x)(4x)-(x)(x) = 8x^2-x^2 = 7x^2$

Part 4: (R) $A = (9x)(16x+5)-(4x)(7x-2)$
$$= 144x^2+45x-28x^2+8x = 116x^2+53x$$

(W) $A = (6x^2)(11x+20)-8(10x^2-3x)$
$$= 66x^3+120x^2-80x^2+24x = 66x^3+40x^2+24x$$

(R) $A = (3x)(5x-12)-4(x)(x+2)$ 4 corners
$$= 15x^2-36x-4(x^2+2x) = 15x^2-36x-4x^2-8x$$
$$= 11x^2-44x$$