

Score: _____

NAME: Key

Assessment Training Practice #4C

Directions: Find the sum, difference or product of each for #1 – 12.

1.) $(5x^2 + 2x) - x(3x^2 - x + 6)$

$$(5x^2 + 2x) + -1x(3x^2 + -1x + 6)$$

$$5x^2 + 2x + -3x^3 + 1x^2 + -6x$$

$$\boxed{-3x^3 + 6x^2 - 4x}$$

2.) $(4p - 6)(2p + 3)$

	$4p$	-6
$2p$	$8p^2$	$-12p$
3	$12p$	-18

$$\boxed{8p^2 - 18}$$

3.) $(9 - 3x^2) + (2x^2 - x + 4)$

$$9 + -3x^2 + 2x^2 + -1x + 4$$

$$\boxed{-1x^2 - 1x + 13}$$

4.) $-3n^3(-2n^2 + 3n - 5)$

$$\boxed{6n^5 + -9n^4 + 15n^3}$$

5.) $(3x^3 + 2z^5)^2$

	$3x^3$	$2z^5$
$3x^3$	$9x^6$	$6x^3z^5$
$2z^5$	$6x^3z^5$	$4z^{10}$

$$\boxed{9x^6 + 12x^3z^5 + 4z^{10}}$$

6.) $(-2n^4 + 4n - 3) + (-3n + n^4 - 3)$

$$-2n^4 + 4n + -3 + -3n + n^4 + -3$$

$$\boxed{-n^4 + n - 6}$$

7.) $(3x - 2)(2x - 1)$

	$3x$	-2
$2x$	$6x^2$	$-4x$
-1	$-3x$	2

$$\boxed{6x^2 - 7x + 2}$$

8.) $(2h^2 - 4)(3h^2 - 8)$

	$2h^2$	-4
$3h^2$	$6h^4$	$-12h^2$
-8	$-16h^2$	32

$$\boxed{6h^4 - 28h^2 + 32}$$

9.) $(-x^3 + 2x^2 - 4)(x + 6)$

	$-x^3$	$2x^2$	-4
$1x$	$-1x^4$	$2x^3$	$-4x$
6	$-6x^3$	$12x^2$	-24

$$\boxed{-x^4 - 4x^3 + 12x^2 - 4x - 24}$$

10.) $(-2x^2 - 5x - 8) + (-x^2 - 3x + 5)$

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

$$\boxed{-3x^2 - 8x - 3}$$

11.) $(2x^2 - 3x + 5) - (-2x^2 + 4x - 9)$

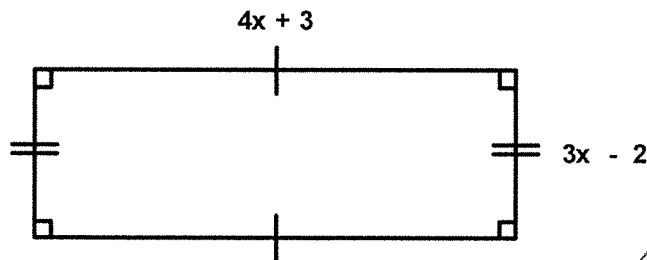
$$2x^2 + -3x + 5 + 2x^2 + -4x + 9$$

$$\boxed{4x^2 - 7x + 14}$$

12.) $(3x^3 - 2x^2 - 5)(x - 6)$

	$3x^3$	$-2x^2$	-5
x	$3x^4$	$-2x^3$	$-5x$
-6	$-18x^3$	$12x^2$	30

$$3x^4 - 20x^3 + 12x^2 - 5x + 30$$



$$2(4x + 3) + 2(3x - 2)$$

$$8x + 6 + 6x - 4$$

$$14x + 2$$

13a.) Write an expression for the perimeter of the figure above.

$$P = 2l + 2w \quad 2(4x + 3) + 2(3x - 2) = 14x + 2$$

13b.) Write an expression for the area of the figure above.

$$A = lw \quad (4x + 3)(3x - 2) = 12x^2 + -8x + 9x - 6$$

$$= 12x^2 + x - 6$$

14.) Solve for r which represents the radius of a sphere. V represents the volume.

$$V = \frac{4}{3} \pi r^3$$

$$\frac{3}{4} \cdot V = \left(\frac{4}{3} \pi r^3 \right) \frac{3}{4}$$

$$\frac{3V}{4} = \frac{\pi r^3}{\pi}$$

$$\frac{3V}{4\pi} = r^3$$

$$\frac{3V}{4} \div \pi$$

$$\frac{3V}{4} \cdot \frac{1}{\pi}$$

$$\sqrt[3]{\frac{3V}{4\pi}} \quad \sqrt[3]{r^3}$$

$$\sqrt[3]{\frac{3V}{4\pi}} = r$$

- 15.) Solve for h which represents the height of a cylinder. V represents the volume and r represents the radius.

$$V = \pi r^2 h$$
$$\frac{V}{\pi r^2} = \frac{\pi r^2 h}{\pi r^2}$$
$$\frac{V}{\pi r^2} = h$$

- 16.) Solve for c which represents the speed of light. E represents energy and m represents mass.

$$E = mc^2$$
$$\frac{E}{m} = \frac{mc^2}{m}$$
$$\frac{E}{m} = c^2$$
$$\sqrt{\frac{E}{m}} = \sqrt{c^2}$$

$$c = \sqrt{\frac{E}{m}}$$

- 17.) Solve for h which represents the height of a rectangular box. The l represents the length and the w represents the width and V represents volume.

$$V = lwh$$
$$\frac{V}{lw} = \frac{lwh}{lw}$$
$$\frac{V}{lw} = h$$