

HONORS TEST 1 REVIEW GAME

PROBLEM 1:

Evaluate the expression when $x = 4$ and $y = -3$

$$\begin{aligned} & 4(x - y)^2 + 5x - 2y^2 \\ & 4(4 - -3)^2 + 5(4) - 2(-3)^2 \\ & 4(7)^2 + 5(4) - 2(-3)^2 \\ & 4(49) + 5(4) - 2(9) \\ & 196 + 20 - 18 \\ & 198 \end{aligned}$$

PROBLEM 2:

Write the expression in simplest form.

$$(17x + 26xy^2) - 11 - 7xy^2 + 23 - (13x - 9xy^2)$$

$$10xy^2 + 4x + 12$$

PROBLEM 3:

Which expressions below are equivalent?

I. $3x - 6$

II. $6x - 3x - 12 - 9$

III. $3x - 21$

IV. $6x - 8x + 3 - 9 + 5x$

V. $3x + 6x - 9 + 5x - 12$

$$\begin{aligned} &6x - 4(2x + 3) - 9 + 5x \\ &6x - \underline{8x} - 12 - 9 + \underline{5x} \\ &6x - 3x - 12 - 9 \\ &3x - 21 \end{aligned}$$

PROBLEM 4:

Multiply.

$$4x^3y^2(6x^5y^3 - 2x^3y^2 + 5xy - 8)$$
$$24x^8y^5 - 8x^6y^4 + 20x^4y^3 - 32x^3y^2$$

PROBLEM 5:

Bobby has \$3500 in his saving account. He working at Publix making \$300 per week. Write an algebraic expression that represents bobby's saving in (w) weeks.

$$3500 + 300w$$

PROBLEM 6:

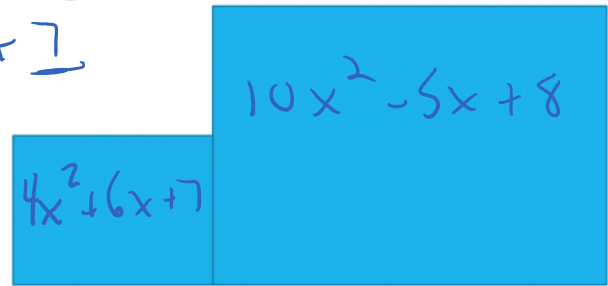
The small rectangle has an area of $4x^2 + 6x + 7$ and the large rectangle has an area of $10x^2 - 5x + 8$. Find the area of the both rectangles.

add

$$(10x^2 - 5x + 8) + (4x^2 + 6x + 7)$$

Handwritten work showing the addition of the two polynomials:

$$\begin{array}{r} 10x^2 - 5x + 8 \\ + 4x^2 + 6x + 7 \\ \hline 14x^2 + 1x + 15 \end{array}$$



PROBLEM 7:

A desk has a length of the $3x + 1$ and a width of $2x - 5$. what is the area of the desk?

multiply

	$2x$	-5
$3x$	$6x^2$	$-15x$
1	$2x$	-5

answer

$$6x^2 - 13x - 5$$

PROBLEM 8:

Find the Product.

$$(x - 4)(3x^2 - 5x + 2)$$

	$3x^2$	$-5x$	2
x	$3x^3$	$-5x^2$	$2x$
-4	$-12x^2$	$20x$	-8

$$3x^3 - 17x^2 + 22x - 8$$

PROBLEM 9:

Identify the polynomials by terms. (monomial, binomial and trinomial)

- 1) $\underline{5} + 3(\underline{x + 7})$ binomial
- 2) $\underline{3x^2} + \underline{5x} - \underline{8xy}$ Trinomial
- 3) $\underline{345ab^2c}$ monomial
- 4) $\underline{4x^2} - \underline{8y^2}$ binomial
- 5) $\underline{4xy^2} + \underline{4(x - 6)} + \underline{1}$ Trinomial

PROBLEM 10:

Part 1: A rational times a irrational create what type of answer?

Rational or Irrational

Part 2: Identify if the problem below is rational or irrational?

$$\sqrt{4} \cdot \sqrt{4} = \sqrt{16} = 4$$

rational

PROBLEM 11:

A cyclist travels 110 kilometers in 4.4 hours. Use dimensional analysis to convert the cyclist's speed to miles per minute. Use 1 mi = 1.61 km.

Multiply

$$\frac{110 \cancel{\text{km}}}{4.4 \cancel{\text{hr}}} \cdot \frac{1 \text{ mile}}{1.61 \cancel{\text{km}}} \cdot \frac{1 \cancel{\text{hr}}}{60 \text{ min}} = \frac{110 \text{ miles}}{425.04 \text{ minute}}$$

• 258 mile per minute

PROBLEM 12:

Write expressions for the statement below.

1) Seven more than twice the number. $2n + 7$

2) eight less than a number, y . $n - 8$

3) five times a number plus six. $5n + 6$

4) three times the quotient of a number an four. $3\left(\frac{n}{4}\right)$

PROBLEM 13:

Evaluate the expression when $x = 3$ and $y = -2$

$$\begin{aligned} & 8 - 12y \div 4x + 9 \\ & 8 - 12(-2) \div 4(3) + 9 \\ & 8 + 24 \div 4(3) + 9 \\ & 8 + 6(3) + 9 \\ & 8 + 18 + 9 \\ & \boxed{35} \end{aligned}$$

PROBLEM 14:

Subtract the polynomial.

$$(8x^3 + 7 - 3x) - (3 + 6x^3 + 5x)$$

Handwritten work showing the subtraction process:

$$\boxed{8x^3} + \underline{7} - \underline{3x} - \underline{3} - \boxed{6x^3} + \underline{5x}$$

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

PROBLEM 15:

Multiply the polynomial.

$$(2x + 5)(2x^2 + 3x - 4)$$

	$2x^2$	$3x$	-4
$2x$	$4x^3$	$6x^2$	$-8x$
5	$10x^2$	$15x$	-20

answer

$$4x^3 + 16x^2 + 7x - 20$$

PROBLEM 16:

Write an equivalent expression in simplest form.

$$\boxed{7x} - \underline{10} + \boxed{6xy} - \boxed{22x} + \underline{15} - \boxed{9xy}$$

$$\boxed{-15x - 3xy + 5}$$

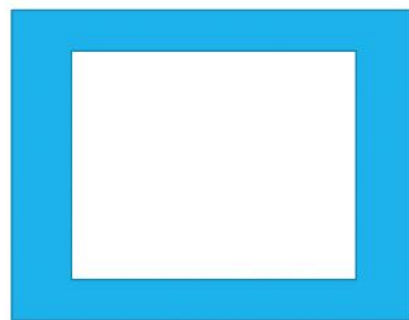
PROBLEM 17:

The area of the large rectangle is $5x^2 + 3x + 7$ and the area small rectangle is $2x^2 + 3$. What is the area of the shaded green region as a polynomial?

$$(5x^2 + 3x + 7) - (2x^2 + 3)$$
$$\boxed{5x^2} + 3x - 7 \quad \boxed{-2x^2} - 3$$

$$\boxed{3x^2 + 3x - 10}$$

answer



PROBLEM 18:

Identify if the problem below is rational or irrational?

1) $3\sqrt{25}$ rational

2) 3π irrational

3) $\frac{\sqrt{64}}{9}$ rational

4) $-5 + e$ irrational

PROBLEM 19:

Which expressions below are equivalent?

I. $6x + 3 - 15x - 4$

II. $-9x + 30$

III. $-15x + 18 + 6x + 12$

IV. $6x$

V. $9x + 6$

$$6(x + 3) - 3(5x - 4)$$

$$6x + 18 - 15x + 12$$

$$-9x + 30$$

PROBLEM 20:

While walking down the street I met a man. He tipped his hat and drew his cane and in this riddle I told his name.

What is the man's name?