

Summer 2025 Math Work

Incoming 8th grade
Accelerated Math

Translating

Date:

Translate the following:

1. "One less than the quotient of a number and -5"
2. "Three times the sum of a number and 7"
3. "The product of a number and -3, increased by 4 is 12"
4. "The difference of twice a number and 9 is -21"
5. " x is at most 6"
6. "You must be at least 18 years old to vote"

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1- and 2- Step Equations

Solve
for
 x .

Date:

1. $-10 + x = 18$
2. $3x = -153$
3. $29 - x = 8$
4. $-5x + 7 = -38$
5. $\frac{2}{3}x - 28 = 46$
6. $81 - \frac{4x}{7} = 21$

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**Solving &
Graphing
Inequalities**

Date:

Solve and graph the following:

1. $2x + 5 > 45$

2. $4 - \frac{x}{5} \geq 1$

3. $-3x + 8 > -4$

4. $\frac{x}{8} - 4 \geq -2$

**Multi-Step
Equations**

Solve
for x .

Date:

1. $6x + 30 - 15x + 6 = 18$

2. $-6(x - 1) = 108$

3. $-4(x + 2) - 3x = 20$

4. $3(x - 2) - (x + 5) = 17$

Solve :

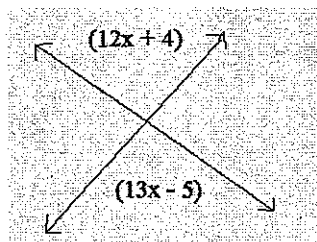
**Variables
on Both
Sides**

Date:

1. $8x - 4 = 3x - 39$

2. $5(x - 9) = 2x + 15$

USE FOR #4:



3. $4p - 10 = p + 3p - 2p$

4. Solve for x .

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Date:

**No Solution
& Infinite
Solution**

1. $-38 - 7y = 2 - 7(y + 6)$

2. $2(3b + 4) = 5b + 1$

Solve.

3. $-3(x + 5) + 2x = -15 - x$

4. $-7(-7k + 2) = -14 - 2k$

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Proportions

Solve.

Date:

1. $\frac{8}{6} = \frac{4}{x-7}$

2. $\frac{2x+6}{6} = \frac{9}{3}$

3. $\frac{6}{x+1} = \frac{3}{x}$

4. $\frac{2}{6} = \frac{2n+8}{n-1}$

Absolute Value

Evaluate.

Date:

1. $|-14|$

2. $|18|$

3. $|-20| - |-17|$

4. $|10 - 16|$

5. $|2 - 7|^2$

6. $2|c| + b$ (if $c = -6$, $b = 8$)

Evaluating Expressions

Date:

Evaluate the following is $a = -3$, $b = 8$, and $c = -4$

1. $9a - 2ab$

2. $a^2 + 7c - 1$

3. $|10 - 4b|$

4. $\frac{2c^2 + 5b}{a}$

Combining Like Terms

Date:

Simplify the following expressions.

1. $-y - 6 - 3y - y$

2. $x - 3y + 2x + 4$

3. $52x - 52x - 6 - 6$

4. $7a^2b + 8ab^2 - 9a^2b$

5. The sides of a triangle are $3x + 2$, $6x - 1$, and $7 - x$. Express the perimeter of the triangle in terms of x .

**Distributive
Property**

Date:

Simplify the following expressions:

1. $5(x - 7)$

2. $-4(3a - 1)$

3. $-\frac{2}{5}\left(\frac{10}{3}x - 5\right)$

4. $-(x + 3)$

5. $s(r - 3)$

6. $x(3y - 2z + 9)$

**Distribute/
Combine
Like Terms**

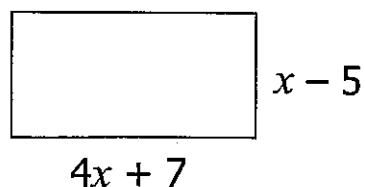
Date:

Simplify the following expressions:

1. $7(1 - 9k) - 5(4k + 7)$

2. $10(x - 2) - (x - 4)$

- 3.** The dimensions of a rectangle are shown below.
Use the formula $P = 2L + 2W$ to find its perimeter
in simplest form.



Classifying the Real Numbers

Date:

Identify all sets of numbers to which each number belongs:

a. -4

b. $\sqrt{130}$

c. $-2\frac{1}{4}$

d. -18.2

e. π

f. $-\sqrt{81}$

g. $\frac{20}{4}$

h. 0

Properties

Date:

Identify each property used below.

1. $7 + (a + b) = (7 + a) + b$

2. $(4y + 1) \cdot 0 = 0$

3. $-2(x - y) = -2x + 2y$

4. $3 \cdot \frac{1}{3} = 1$

5. $(2 + 1) + 9 = (1 + 2) + 9$

6. $6m \cdot 1 = 6m$

Slope

Date:

1. Given a graph, how do you find slope?

Find the slope passing between the points:

2. $(-1, 3)$ and $(4, -7)$

3. $(3, 2)$ and $(6, 5)$

4. $(-3, 5)$ and $(-3, -7)$

5. $(-5, 1)$ and $(-2, 1)$

Completing Ordered Pairs

Date:

Find the missing value so that the ordered pairs have the given slope.

1. $(x, -1)$ and $(-2, -3)$; $m = -\frac{1}{2}$

2. $(-1, -9)$ and $(2, y)$; $m = 3$

Name: _____ Date: _____

Simplify:

1. $(6 + 3n^2 + m) + (4n^3 - 4n^2 - 11)$

2. $(10a^4 - 8a^5 + a + 5) - (-2a^4 - 8a - 6)$

3. $(9x^7 + 11x^6 - 3x - 6) + (x^7 - 11x^5 + 2)$

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

5. $2x(4x^8 - 7x^6 + x - 9)$

6. $4x^3(3x^2 + 5x) - 3x(x^3 - x) + 2(x - 1)$

Name: _____

Date: _____

Adding and Subtracting Polynomials

Add or subtract as indicated.

1. $(3x+2)+(4x+6)$
2. $(2x+y+3z)+(x-y+z)$
3. $(x^2+2)+(x^2-5)$
4. $(3a^2+2a-1)+(a^2+a+1)$
5. $(2x^2+3x-1)+(x^2-x+2)$
6. $(2z-z^2+5)+(z^2-3z+1)$
7. $(3-2t^2+t)+(t^2-t-3)$
8. $(4m-2n)-(3m+3n)$
9. $(6a+2b-7)-(a-b+2)$
10. $(q^2+8)-(4q^2+1)$
11. $(6d^2+3d+1)-(d^2-3d-5)$
12. $(2x^2+3x-1)-(-2x^2+3x-1)$
13. $(3x^2+5)-(x+1)$
14. $(3x+7x^2-6)-(5x^2+x+9)$
15. $(x^2-7x+10)+(2x^2+2x-3)-(3x^2-5x+7)$