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**Integrated Mathematics 3
Pre-Assessment:
Question Booklet**

SCIENTIFIC CALCULATORS ARE PERMITTED

IMPORTANT

This is not an exam. You receive homework credit for completing it and allows you to see what you need to study at the math seminars.

INSTRUCTIONS

- Do not write on these pages!
- Only start on the pre-assessment after instructed to by the proctor.
- Stay silent during the entire pre-assessment time.
- Stay in your seat during the pre-assessment.
- Write your answers on the provided answer sheet.
- You may use the answer sheet as scratch paper.
- Answers will be submitted through a Google form.
- Once you are completed with the pre-assessment and checked your answers, go to <https://goo.gl/forms/kMO10cJfTz4SLlcf1>.
- After submitting your answers online, return this pre-assessment packet to your teacher.

After your pre-assessment has been collected, you may read, study, or do other work at your desk. You may not use your cell phone, listen to music, or work on any math unless given permission from your teacher.

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Directions: For problems 1 through 3, simplify the following expressions as much as possible.

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

A	B	C	D
$-2x^3$	$-2x^4$	$-6x^2$	$-2x^2$

2.) $\frac{y^3(x)^{-2}}{x^4y^2}$

A	B	C	D
$\frac{x^{-6}}{y}$	$\frac{x^2}{y}$	$\frac{y}{x^6}$	$\frac{y}{x^2}$

3.) $(2x + 1)^2(x - 6)^0$

A	B	C	D
$4x^2 + 4x + 1$	$4x^2 + 5x - 5$	$2x + 1$	$4x^3 - 20x^2 - 23x - 6$

Directions: For problems 4 through 6, simplify the following radical expressions as much as possible.

4.) $9^{1/2} \cdot 9^{3/2}$

A	B	C	D
9	$9^{3/4}$	$4\sqrt[3]{9}$	81

5.) $\sqrt{27x^3y^2}$

A	B	C	D
$9x\sqrt{3xy}$	$3xy\sqrt{3x}$	$9x^2y^2\sqrt{3x}$	$x\sqrt{27y^2}$

6.) $\sqrt[3]{64x^9y^5}$

A	B	C	D
$(8x^4y^2)(\sqrt[3]{xy})$	$(8x^3)(\sqrt[3]{y})$	$(4x^3y)(\sqrt[3]{y^2})$	$(4x^4y^2)(\sqrt[3]{xy})$

Directions: For problems 7 through 9, solve each of the following absolute value equations.

7.) $|x - 5| = 2$

A	B	C	D
$x = 7$	$x = 7$ and 3	$x = 7$ and -3	$x = -3$

8.) $|x + 3| - 6 = 11$

A	B	C	D
$x = -20$ and 14	$x = 20$ and 14	$x = 14$	$x = 14$ and 2

9.) $|3x + 2| + 9 = 20$

A	B	C	D
$x = 3$ and $-\frac{13}{3}$	$x = 3$ and $\frac{31}{3}$	$x = \frac{9}{4}$ and $-\frac{31}{3}$	$x = 3$ and 9

Directions: For problems 10 through 12 solve for x.

10.) $5x + 4 = 34 - x$

A	B	C	D
$x = 9.5$	$x = -5$	$x = 7.5$	$x = 5$

11.) $x^2 + 17x + 6 = -64$

A	B	C	D
$x = 10$ and 7	$x = -10$ and -7	$x = -10$ and 7	No Solution

12.) $x^2 - 4x + 5 = 0$

A	B	C	D
$x = 5$ and -1	$x = 1$ and -5	$x = 2 \pm i$	$x = 1 \pm i$

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Directions: For problems 13 and 14 solve each system of equations for x and y .

13.)	$-4x + 9y = 9$ $x - 3y = -6$	A	B	C	D
		$(9, -5)$	$(9, 5)$	$(3, 9)$	No Solution

14.)	$-5x + y = -3$ $3x - 8y = 24$	A	B	C	D
		$(3, 0)$	$(0, 3)$	$(0, -3)$	No Solution

Directions: For problems 15 and 16, factor as much as possible.

15.)	$x^2 + 12x + 20$	A	B	C	D
		$(x + 20)(x + 12)$	$(x + 10)(x + 2)$	$(x - 10)(x - 2)$	$(x - 20)(x - 12)$

16.)	$2x^2 + 13x + 15$	A	B	C	D
		$(2x - 3)(x - 5)$	$(x - 10)(x - 3)$	$(x + 10)(x + 3)$	$(2x + 3)(x + 5)$

Directions: For problems 17 through 20, match each graph with the correct equation.

17.) $y = 5x - 3$

18.) $y = -(x + 5)^2 - 6$

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

20.) $y = -4x + 5$

