

Welcome Class of 2030

Name _____

Group _____



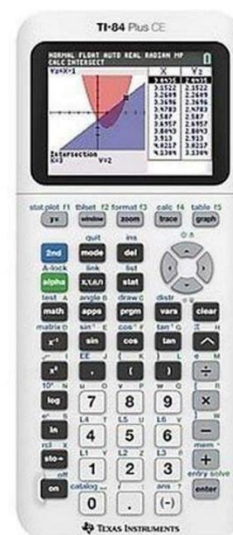
Mathematics Packet

Email Account:

Create a google email account that you would like to use throughout high school and to apply to college with. For example, lastnamefirstintial##@gmail.com

Calculator:

The **TI-84 Plus CE** is the graphing calculator that is used by instructors here at PHU. This calculator is approved for use on the SAT, ACT, AP exams, and IB exams. We encourage students to purchase one of these calculators. Students also can check out a calculator from the math department at the beginning of the school year if they are unable to purchase one.



IB Incoming Freshmen Math Summer Review

This tool is designed to help you identify any areas from Algebra I for which you may need support to ensure your success during your years in IB.

To successfully complete the assignment, work each problem on the worksheets provided, show all work and indicate your answer by underlining it or boxing it. There are optional Khan Academy modules for additional support. When you return to school you will turn in the packet and you will have an assessment during the first quarter of the school year similar to this assignment, so we encourage you to complete it with fidelity to ensure you are prepared.

This assignment should be completed WITHOUT the use of a calculator.

An answer key has been provided, so you may check your work.



Options for additional support:

- Additional Khan Academy Lesson

If you don't have, a Khan Academy account, please create one.

Class Join Codes by Last Name:

A-F <https://www.khanacademy.org/join/7SUHW2YQ>

G-L <https://www.khanacademy.org/join/QKMWETBC>

M-R <https://www.khanacademy.org/join/6D2QHQ92>

S-Z <https://www.khanacademy.org/join/S2STZ3D2>

- Free Tutoring Here at PHU. Just check in at the front off and you will be directed to the tutoring location.

○ Thursday, June 11 from 2-4 PM ○ Thursday, June 18 from 2-4 PM ○ Wednesday, June 24 from 9-11 AM ○ Tuesday, June 30 from 9-11 AM	○ Monday, July 6 from 1-3 PM ○ Wednesday, July 8 from 1-3 PM ○ Monday, July 27 from 9-11 AM ○ Wednesday, July 29 from 9-11 AM
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Summer Assignment: PART ONE: EXPRESSIONS

Simplify the following expressions without the use of a calculator. SHOW ALL WORK AND STEPS CLEARLY, EXPRESSING ANY REMAINDERS AS SIMPLIFIED FRACTIONS.

1. $24 - (16 \div 4) + 5(2)^3$

2. $-4^2 - 5^2$

3.
$$\frac{7(-2) - 6 + 9}{-44 \div 4}$$

4. $(-16) \div (-4) \cdot |8 - 15|$

5.
$$\frac{(3^2)(y^3)}{(3^{-2})(y^6)}$$

6.
$$\left(\frac{3}{4}x^2 - \frac{2}{3}\right) + \left(-\frac{1}{2}x^2 + x + \frac{5}{6}\right)$$

7. $3762 \div 26 =$

8. $3762(26) =$

PART TWO: SOLVING EQUATIONS

Solve the following equations/systems of equations without the use of a calculator. SHOW ALL WORK AND STEPS CLEARLY.

1. $2 - 3(3n - 2) = -10$

2. $-\frac{5}{4}x = \frac{5}{20}$

3. $\frac{27}{18} = \frac{9}{x}$

4. $x^2 - 4x = 5$

5. $y = 2x + 1$
 $y = -3x - 2$

6. $4x - 3y = 12$
 $2x + 3y = -6$

PART THREE: QUADRATIC EXPRESSIONS

1. Completely factor $2x + 4x^2$

2. Completely factor $x^2 - 25$

3. Completely factor $x^2 - 4x - 32$

4. Completely factor $3x^2 + 11x - 4$

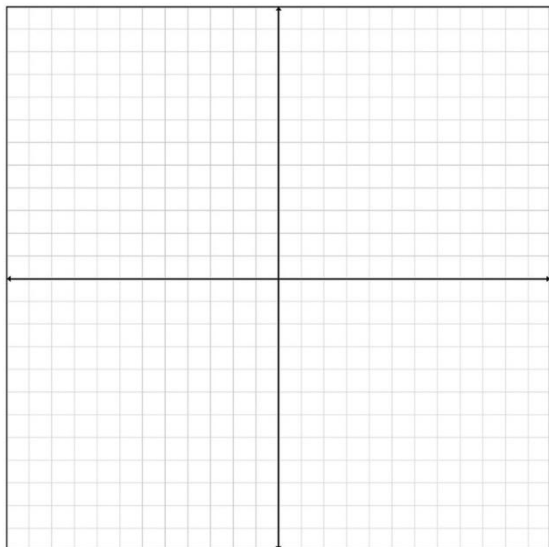
5. Completely expand $(2 + x)^2$

6. Completely expand $(2x + 7)(x - 3)$

PART FOUR: EQUATIONS OF LINES

1. Determine the equation of the line in slope-intercept form ($y = mx + b$) contains the points $(-1, 2)$ and $(5, 6)$

2. Graph the following equation $5x + 7y = 35$.



3. Use the graph on the left to identify the:

Slope: _____

x -intercept: _____

y -intercept: _____

4. Identify the slope of a line that is perpendicular to the line in Section 4 Problem 1.

5. Find the equation of a line that is parallel to the line in Section 4 Problem 2 passing through the point $(-5, 1)$.

Answers

Part 1

1. 60
2. -41
3. 1
4. 28
5. $\frac{81}{y^3}$
6. $\frac{1}{4}x^2 + x + \frac{1}{6}$
7. $144\frac{9}{13}$
8. 97 812

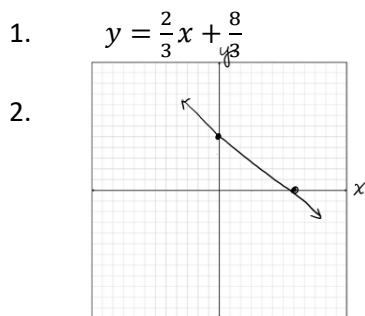
Part 2

1. $n = 2$
2. $x = -\frac{1}{5}$
3. $x = 6$
4. $x = 5; x = -1$
5. $x = -\frac{3}{5}; y = -\frac{1}{5}$
6. $x = 1; y = -\frac{8}{3}$

Part 3

1. $2x(1 + 2x)$
2. $(x + 5)(x - 5)$
3. $(x - 8)(x + 4)$
4. $(3x - 1)(x + 4)$
5. $4 + 4x + x^2$
6. $2x^2 + x - 21$

Part 4



3. slope: $-\frac{5}{7}$
x-intercept: 7
y-intercept: 5
4. $-\frac{3}{2}$
5. $y = -\frac{5}{7}x - \frac{18}{7}$