



BLUE KNIGHTS

Southington High School

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Dear Students,

Enclosed you will find a comprehensive set of problems which reflect critical math skills that must be mastered prior to entering your Intermediate Algebra class at Southington High School. You are encouraged to develop a wide range of ways for finding the correct answer, including techniques both with and without the aid of a calculator*. Working with a friend, sibling, or parent might be a helpful way to complete this assignment!

On the second day of school, your teachers will check your packets for completion and count it as your first three homework grades. In order to receive full credit for the assignment, you must attempt each problem and show all work used to complete it. The answers are provided as a means to assess your own work. During the first few days of school, your teachers will provide you with an opportunity to review your work from this packet. Soon thereafter, you will be given your first quiz that addresses these skills.

Our goal is for you to have a successful and enjoyable transition into your Intermediate Algebra class at Southington High School. This packet is meant to facilitate this process. Try your best and remember your teachers will help you upon your return.

Sincerely,

David Kowalchuk
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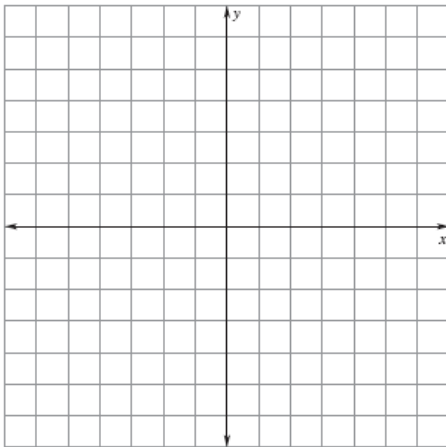
Frank Pepe
Principal

*Reminder: A graphing calculator is an important tool used within this course. Students are strongly encouraged to obtain one for their personal use. Copies of this packet may be found on the Southington High School Website. Go to www.southingtonschools.org and click on the link to Parent Resources

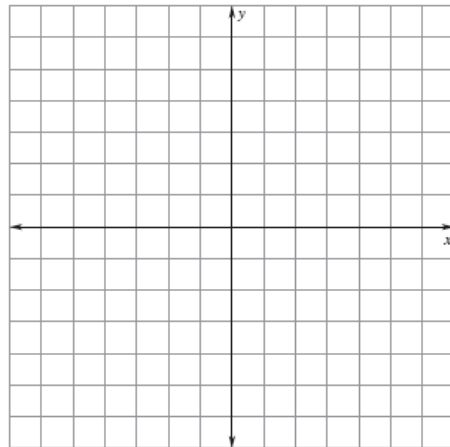


Part I: Graph the following equations.

1) $y = 3x - 7$



2) $2x + 4y = -12$



Part II: Multiply the following:

3) $8x^2(x + 7)$

4) $(x - 8)(3x - 2)$

5) $(7x + 12)(x - 5)$

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

7) $(x - 9)^2$

8) $(3x + 2)(-4x - 7)$

Part III: Factor the following expressions.

9) $x^2 + 12x + 35$

10) $x^2 - 8x - 48$

11) $x^2 - 3x$

12) $x^2 - 49$

Part IV: Solve each quadratic equation using the indicated method.

13) $x^2 - 7x + 10 = 0$ by factoring.

14) $x^2 - 2x - 4 = 0$ by the quadratic formula. Round to the nearest hundredth.

Part V: Simplify the following expressions using the order of operations (PEMDAS).

15) $18 \div 6 + 4(5 - 2)$

16) $5 + 2^3 + 3[6 - 3(4 - 2)]$

17) $\frac{40 \div 2 \cdot 4}{8 \cdot 2 \div 4}$

18) $2^3 + 3^4 \div 3 - 5^2$

19) $4x^2 + 3x(-9x + 6)$

20) $5mn - n(6m - 2m^2)$

21) $a^2 - 3a(4a + 2)$

22) $3(x + 1)^2 - 4$

Part VI: Solve each of the following formulas for r .

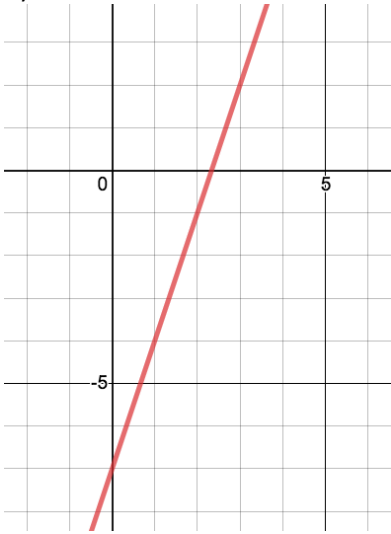
23) $d = rt$

24) $A = \pi r^2$

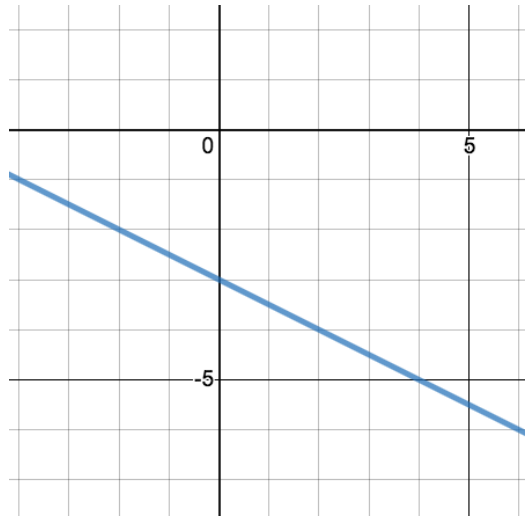
25) $C = 2\pi r$

ANSWERS (This is for you to check your work, you must show your steps for each problem in order to receive full credit)

1)



2)



3) $8x^3 + 56x^2$

5) $7x^2 - 23x - 60$

7) $x^2 - 18x + 81$

9) $(x + 5)(x + 7)$

11) $x(x - 3)$

13) $x = 5, x = 2$

15) 15

17) 20

19) $-23x^2 + 18x$

21) $-11a^2 - 6a$

23) $r = \frac{d}{t}$

25) $r = \frac{c}{2\pi}$

4) $3x^2 - 26x + 16$

6) $x^2 - 9$

8) $-12x^2 - 29x - 14$

10) $(x - 12)(x + 4)$

12) $(x - 7)(x + 7)$

14) $x = -1.24, x = 3.24$

16) 13

18) 10

20) $-2m^2n - mn$

22) $3x^2 + 6x - 1$

24) $r = \sqrt{\frac{A}{\pi}}$