DO NOW: Find all coordinates where **f(x) = g(x)** by the following methods...

f(x) = x² - 5x + 5

g(x) = 5x - 20

ROW 1: Algebraically
ROW 2: Graphically
ROW 3: Algebraically
ROW 4: Graphically
ROW 5: Algebraically

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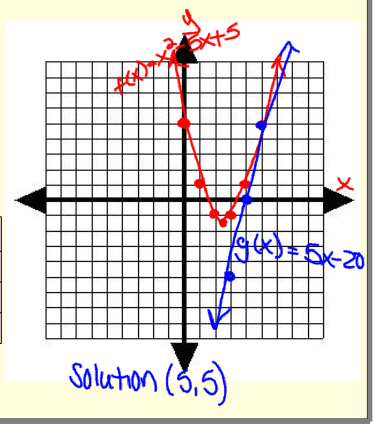
Graphical Solution:

f(x) = x² - 5x + 5

g(x) = 5x - 20

x	f(x)
0	5
1	1
2	-1
2.5	-1.25
3	-1
4	1
5	5

x	g(x)
3	-5
4	0
5	5



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Algebraic Solution:

f(x) = x² - 5x + 5

g(x) = 5x - 20

$x^2 - 5x + 5 = 5x - 20$

$-5x + 20 \quad -5x + 20$

$x^2 - 10x + 25 = 0$

$(x-5)(x-5) = 0$

$x - 5 = 0 \quad x - 5 = 0$

$x = 5 \quad x = 5$

$g(x) = 5x - 20$

$g(5) = 5(5) - 20$

$g(5) = 25 - 20$

$= 5$

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Example 1

y = 5x² + 2x + 1

y + 4x = -9

$-4x \quad -4x$

$y = -4x - 9$

$5x^2 + 2x + 1 = -4x - 9$

$+4x + 9 \quad +4x + 9$

$5x^2 + 6x + 10 = 0$

no solution

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Example 2

y = 3x - 1

y + 9 = 2x² + 3x

$-9 \quad -9$

$y = 2x^2 + 3x - 9$

$2x^2 + 3x - 9 = 3x - 1$

$-3x + 1 \quad -3x + 1$

$2x^2 - 8 = 0$

$2(x^2 - 4) = 0$

$2(x-2)(x+2) = 0$

$2 \neq 0 \quad x - 2 = 0 \quad x + 2 = 0$

$x = 2 \quad x = -2$

$y = 5 \quad y = -7$

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Example 3

y + 5 = 3x²

y = 2x + 3

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Example 4

$y - 2x = x^2 - 101$

$y - 19 = 2x$

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