

Questions from 2.3?

2.1-2.3
RISK!

Jan 22-1:07 PM

Jan 22-1:10 PM

	Answer	Wager	Points
			100
1			
2			
3			
4			
5			
6			

1. Find the vertex form of the quadratic function whose vertex is (4,1) and that passes through the point (6, -7)

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Jan 22-1:15 PM

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$$f(x) = -2(x-4)^2 + 1$$

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2. Use the previous function to find where $f(x) < 0$. Round answers to the nearest tenth.

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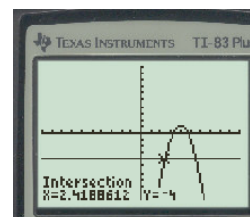
$$f(x) = -2(x-4)^2 + 1$$

$$(-\infty, 3.3) \cup (4.7, \infty)$$

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{Pause :: What if we wanted to find where $f(x) \geq -4$?

2ND TRACE
5: Intersect
Scroll to your intersection point
ENTER
ENTER
ENTER



$$[2.4, 5.6]$$

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3. An online music company's profit function is given below, where x is the number of songs sold per week. Use a graphing calculator to find the number of songs a company should sell per week in order to maximize its profit.

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$$P = 1.75x - (0.0005x^2 + 500)$$

1750 songs

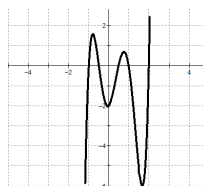
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4. Use the graph to determine the function's degree (even or odd) and sign (+ or -) of the leading coefficient.



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**Odd degree
Positive leading coefficient**

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5. Use synthetic division to show that $x=-3$ is a solution of the following equation. Then, use the result to factor the polynomial completely. List all real zeros of the function.

$$3x^3 + 2x^2 - 19x + 6 = 0$$

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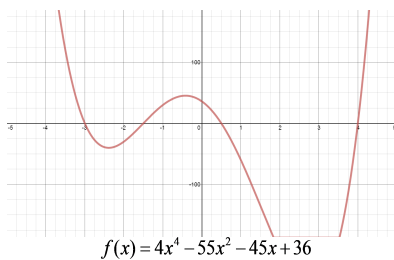
$$3x^3 + 2x^2 - 19x + 6 = 0$$

Factored Form: $(x+3)(3x-1)(x-2)$
Real Zeros: $-3, 1/3, 2$

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6. List the possible rational zeros of f . Then use the graph to determine all the real zeros of f .



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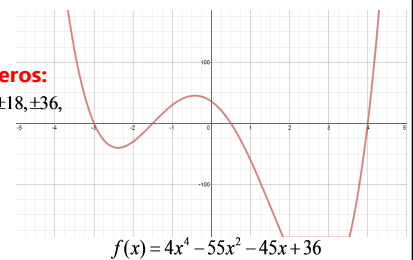
Possible Rational Zeros:

$\pm 1, \pm 2, \pm 3, \pm 4, \pm 6, \pm 9, \pm 12, \pm 18, \pm 36,$

$\pm \frac{1}{2}, \pm \frac{3}{2}, \pm \frac{9}{2}, \pm \frac{1}{4}, \pm \frac{3}{4}, \pm \frac{9}{4}$

Actual Zeros:

$-3, -\frac{3}{2}, \frac{1}{2}, 4$



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Want more practice?

Pg. 173: 11 (also find intervals of x where $y < 0$),
14, 21, 61, 63, 66, 69

{not for a grade}

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Jan 23-11:50 AM