

***Turn in Graded Homework Now
With Work Stapled to the Back.
No Partial Credit for Incomplete Work or Answers.***

Oct 4-7:43 PM

pg 164 - 166:

33. even

40. neither

34. even

41. even

35. odd?

42. odd

36. neither

45. neither

37. neither

46. even

38. neither

39. odd

Ch 1 Ditto 2:

9. $y - 4 = 2(x - 2)$ or $y + 6 = 2(x + 3)$

10. $2x + y + 11 = 0$

#35) Textbk answer is odd, but look closely at the graph and it is not going through the origin. Technically then it is Neither.

Oct 1-8:37 AM

pg 164 - 165:

33. even

40. neither

34. even

(41) even

35. odd

42. odd

36. neither

45. neither

37. neither

46. even

38. neither

(39) odd

$$10) Ax + By + C = 0$$

$$m = -2, (-4, -3)$$

$$y + 3 = -2(x + 4)$$

$$y + 3 = -2x - 8$$

$$+8$$

$$2x + y + 11 = 0$$

Ch 1 Ditto 2:

9. $y - 4 = 2(x - 2)$ or $y + 6 = 2(x + 3)$

10. $2x + y + 11 = 0$

9) $(2, 4) (-3, -6)$

$$y - y_1 = m(x - x_1)$$

$$m = \frac{-6 - 4}{-3 - 2} = \frac{-10}{-5} = 2$$

$$y - 4 = 2(x - 2)$$

Oct 1-8:37 AM

3 a) $f(x) = -3x^3 + 2x$

① $f(-x) = -3(-x)^3 + 2(-x)$

$$= -3(-x^3) - 2x$$

$$= 3x^3 - 2x$$

$f(-x) = f(x)$, not even

② $-f(x) = 3x^3 - 2x$

$-f(x) = f(-x)$

$\therefore$ odd

even $f(x) = f(-x)$

odd $f(-x) = -f(x)$

Oct 6-7:53 AM

41) $f(x) = 5x^2 + 2x^4 - 1$ ✓

① $f(-x) = 5(-x)^2 + 2(-x)^4 - 1$

$= 5x^2 + 2x^4 - 1$ $f(x) = f(-x)$

$\therefore$ even

Oct 6-7:55 AM

forms of lines: slope-intercept
point slope
standard

evaluating } **f(x) with regular and piecewise**
composition

domain } **algebraically & from graph**
range

Increasing } **Make a sketch!!!**
Decreasing
Max
Min

inc/dec $\rightarrow$ x-values!
min/max $\rightarrow$ y-value @ x = —

your test tomorrow

Piecewise Functions

DQ!

Pascals Triangle (can do binomial
expansions manually)

Oct 1-1:03 PM

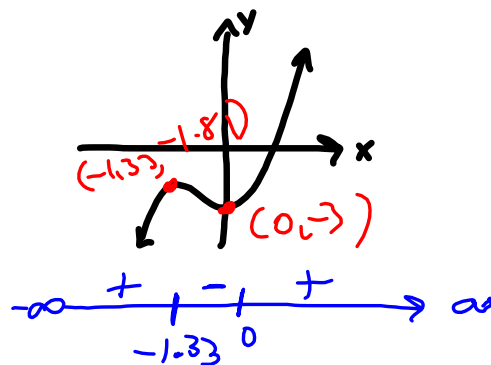
TEST Tomorrow



Oct 5-5:23 PM

1. Rel Max -6.81 @ $x = -1.33$
 Rel Min -3 @ $x = 0$
 Decreasing $(-1.33, 0)$
 Increasing $(-\infty, -1.33), (0, \infty)$

2.
$$f(x) = \begin{cases} 2x & \text{if } -3 \leq x < -1 \\ 2 & \text{if } -1 \leq x < 3 \\ x+1 & \text{if } x \geq 3 \end{cases}$$



Oct 1-8:45 AM

Review PreCalculus:

3. A graph of the function is shown find each:

- a) $f(2)$ 3
b) $f(-3)$ -1

5. Find the domain for each:

a) $f(x) = \frac{3}{2x+5}$ b) $f(x) = \frac{2}{\sqrt{x-3}}$ c) $f(x) = \frac{1}{x^2-6x+5}$

$\left\{x \mid x \neq -\frac{5}{2}\right\}$ $\{x \mid x > 3\}$ $\{x \mid x \neq 5, 1\}$

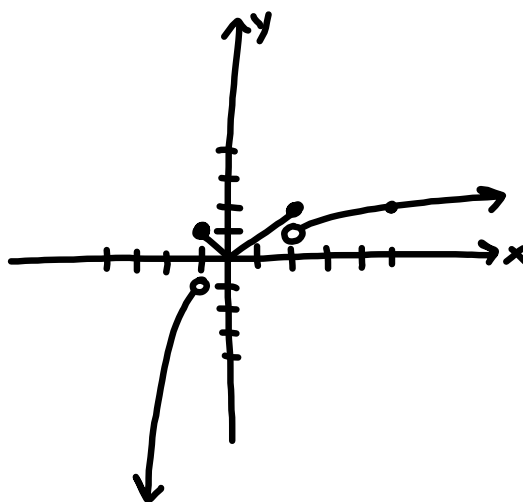
Oct 4-2:45 PM

Include Tables!

4. Graph the piecewise function on graph paper and find each below:

$$f(x) = \begin{cases} x^3 & \text{for } x < -1 \\ |x| & \text{for } -1 \leq x \leq 2 \\ \sqrt{x-1} & \text{for } x > 2 \end{cases}$$

- a) $f(-1)$ 1
b) $f(0)$ 0
c) $f(4)$ $\sqrt{3}$



Oct 4-2:46 PM

6. Given $f(x) = x^2 - x - 3$ find each:

b. $f(a-1) = (a-1)^2 - (a-1) - 3$
 $= a^2 - 2a + 1 - a + 1 - 3$
 $= a^2 - 3a - 1$

c. Difference Quotient $2x + h - 1$

$f(x+h) = (x+h)^2 - (x+h) - 3$

$DQ = \frac{x^2 + 2xh + h^2 - x - h - 3 - (x^2 + x + 3)}{h}$

a. $f(-3)$
9

$DQ = \frac{2xh + h^2 - h}{h}$

$DQ = 2x + h - 1$

Oct 4-2:46 PM

7. Find the equation of a line containing the point (1,-1) and perpendicular to the line $2x+3y=4$ in standard form

$y = -\frac{2}{3}x + \frac{4}{3}$
 $m = -\frac{2}{3} \perp m = \frac{3}{2}$

$(y+1) = \frac{3}{2}(x-1)$
 $2y+2 = 3x-3$

$3x - 2y - 5 = 0$

8. Write the equation of the line in slope intercept form with $m=3$ and passes through point (-2,-1)

$y+1 = 3(x+2)$

$y+1 = 3x+6$
 $y = 3x+5$

9. Write the equation of line that passes through the points (4,1) and (-2,-1) in point slope form

$m = \frac{1+1}{4+2} = \frac{1}{3}$
 $y+1 = 1/3(x+2)$ or $y-1 = 1/3(x-4)$

10. Line through (5,-2) & (-3,4). Standard form.

$m = \frac{4+2}{-3-5} = -\frac{3}{4}$

$3x + 4y - 7 = 0$

$4(y+2) = (\frac{3}{4}(x-5))4$ or $4(y-4) = (\frac{3}{4}(x+3))4$

$4y+8 = 3x-15$

$4y-16 = 3x-9$

Oct 4-2:46 PM

11. Show algebraically whether the function is even odd or neither: hint (do $f(-x)$)

a) $f(x) = 9 - x^2$

$$f(-x) = 9 - (-x)^2$$

$$f(-x) = 9 - x^2$$

same $\rightarrow$ even

b) $f(x) = x^2 + 2x + 1$

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

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

Neither

Oct 4-2:47 PM

12. Given $f(x) = \frac{4}{x^2}$ and $g(x) = 2 - 3x$ find each below:

a) $(f + g)(x) = f(x) + g(x)$

$$= \frac{2x^2 - 3x^2 + 4}{x^2}$$

$$x \neq 0$$

b) $\left(\frac{f}{g}\right)(x) = \frac{f(x)}{g(x)}$

$$= \frac{\frac{4}{x^2} \cdot x^2}{(2 - 3x) \cdot x^2}$$

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

$$= \frac{4}{2x^2 - 3x^3}, x \neq 0, \frac{2}{3}$$

c) $(f \circ g)(x)$

$$f(g(x)) = \frac{4}{(2 - 3x)^2}$$

$$= \frac{4}{4 - 12x + 9x^2}$$

$$= \frac{4}{9x^2 - 12x + 4}$$

$$x \neq \frac{2}{3}$$

Oct 4-2:47 PM

pp. 170 - 173

EXTRA & OPTIONAL REVIEW

12) Not a function $\{x | x = 3, 5, 7\} \{y | y = 1, 3, 5, 7\}$

14) Not a function 17) Function

18) $f(2) = -1$ $f(-3) = -1$ $f(0) = -1$ 20) $f(x) = 3/x + 2, x \neq 0$ 21) $f(x) = \frac{1}{x^2 - 6x + 5}, x \neq 5, 1$

23) $f(x) = \sqrt{16 - x^2} \{x | -4 \leq x \leq 4\} \{y | 0 \leq y \leq 4\}$

27) a) -3 b) 9 c) $a^2 - 3a - 1$ d) $2x + h - 1$ 37) $3x - y + 5 = 0$ 38) $y = 1/3 x - 1/3$

43) $y = 3/2 x - 5/2$ 47) graph

57) b) $(f + g)(x) = \frac{-2x^3 + 3x^2 + 4}{x^2}, x \neq 0$ $(f - g)(x) = \frac{2x^3 - 3x^2 + 4}{x^2}, x \neq 0$

$(f \cdot g)(x) = \frac{12 - 8x}{x^2}, x \neq 0$ $(f / g)(x) = \frac{4}{3x^2 - 2x^3}, x \neq 0, 3/2$

Oct 4-11:55 AM

61) b) $(f \circ g)(x) = \frac{4}{3 - 2x}, x \neq 3/2$ $(g \circ f)(x) = \frac{3x^2 - 8}{x^2}, x \neq 0$

71) Even 73) Odd 75) Even 76) Neither 77) Odd

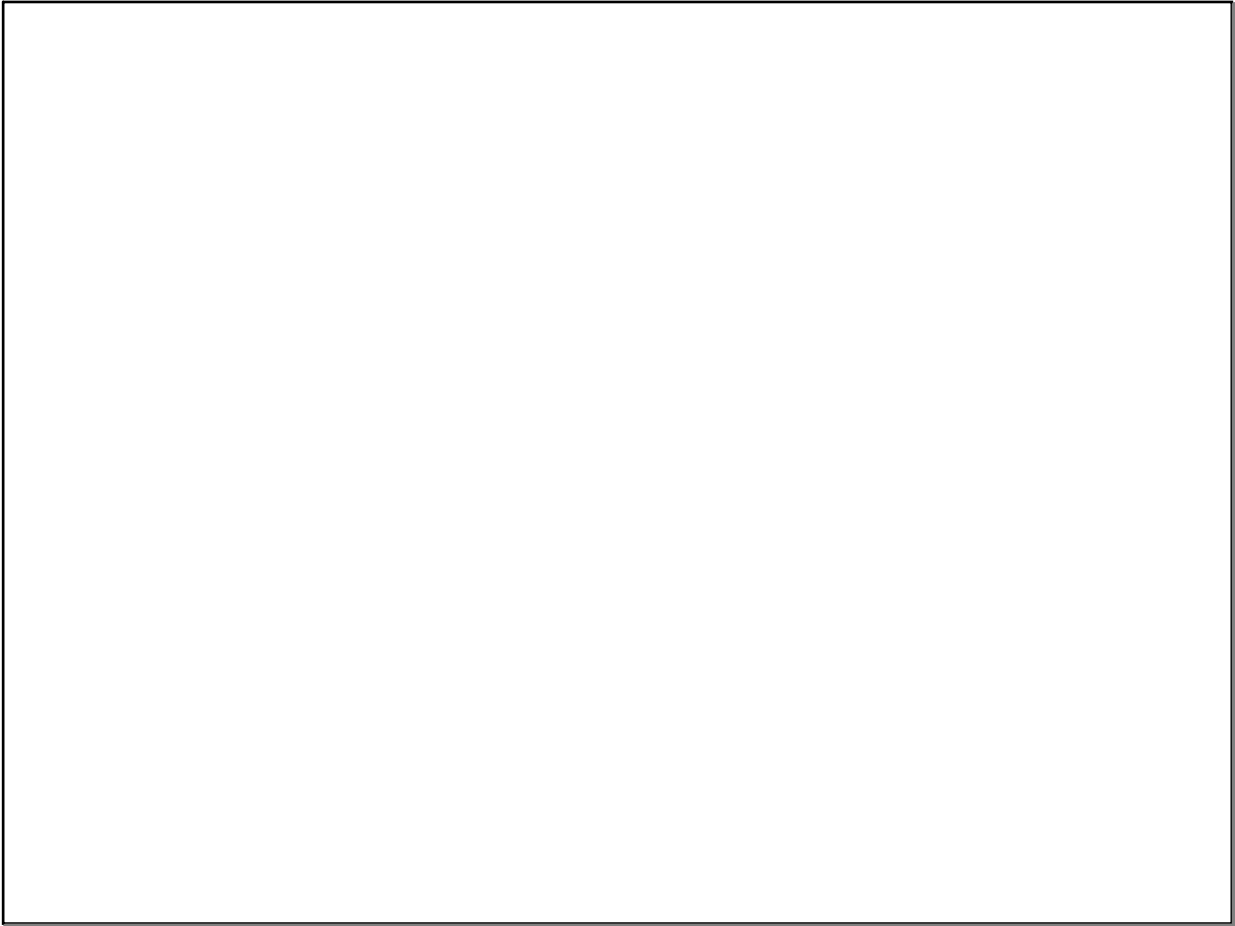
81) $f(x) = (x + 3)^2$ 82) $f(x) = -\sqrt{x - 3} + 4$ 83) $f(x) = 2|x - 3|$

84) Decreasing $x < -3, x > 0$ Increasing $-3 < x < 0$

or

84) Decreasing $x < -3, 0 < x < 0$ Increasing $-3 < x < 0$

Oct 4-12:14 PM



Sep 26-8:52 PM