

GREEN REVIEW HW #8 : Test 3 #24-30, Test 2 #36, 37

Test 3 #24

$$y = .402x^2 - 1.175x + 48.343$$

132.455 (4)

Test 3 #25

Hours	Dist. from Home
0	580
1	520
2	460
3	400
4	340
5	280

AVG rate of Change = $\frac{280-400}{5-3}$ miles
= -60 mi/hr

Fill in table values.

$y = -60x + 580$

x = hours
y = dist from Home

Test 3 #26

	$-2x^2$	$-5x$	-1	
$4x^2$	$-8x^2$	$-20x^2$	$-4x^2$	$+5x$
$-5x$	$+10x^2$	$+25x^2$	$+5x$	-2
$+2$	$-4x^2$	$-10x$	-2	

Remainder

$$-2x^2 - 5x - 1 + \frac{5x - 2}{4x^2 - 5x + 2}$$

Test 3 #27

$$3x^3 + 7x^2 - 18x + 8 = (x-1)(3x^2 + 10x - 8) \quad ac = -24$$

	$3x^2$	$+10x$	-8
x	$3x^3$	$+10x^2$	$-8x$
-1	$-3x^2$	$-10x$	$+8$

$$3x^2 + 12x - 2x - 8$$

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

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

$$3x^3 + 7x^2 - 18x + 8 = (x-1)(3x-2)(x+4)$$

Test 3 #28

$$4x^2 + 8x + 7 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-8 \pm \sqrt{64 - 4(4)(7)}}{2(4)}$$

$$x = \frac{-8 \pm \sqrt{-48}}{8}$$

$$x = \frac{-8 \pm 4i\sqrt{3}}{8}$$

a+bi form:
distribution

$$x = -1 \pm \frac{i\sqrt{3}}{2}$$

$$i\sqrt{16}\sqrt{3}$$

Test 3 #29

$$f(x) = 12\sin\left(\frac{3\pi}{8}t + 42\right)$$

t = seconds into ride

Time for
One cycle: Period

$$\text{period} = \frac{2\pi}{\text{freq}} = \frac{2\pi}{\frac{3\pi}{8}} = 2\pi \cdot \frac{8}{3\pi} = \frac{16}{3}$$

seconds

Max = midline + amp min = midline - amp

$$= 42 + 12 = 54 \qquad 42 - 12 = 30$$

Test 3 #30

$$i(4-2i) - (3+2i)(4-6i)$$

$$(4i-2i^2) - (12-18i+8i-12i^2)$$

$$(4i-2i^2) - (12-10i-12i^2)$$

$$4i-2i^2-12+10i+12i^2$$

$$4i+2-12+10i-12$$

$$-22+14i$$

$$i = \sqrt{-1}$$

$$i^2 = -1$$

Test 2 #36

P($\frac{8}{17}, \frac{15}{17}$) on unit circle $x^2 + y^2 = 1$

Pythagorean Triple:
8, 15, 17

Point on circle:

$$x = \frac{8}{17} \quad y = \frac{15}{17}$$

$$x^2 + y^2 = 1$$

$$\left(\frac{8}{17}\right)^2 + \left(\frac{15}{17}\right)^2 = 1$$

$$\frac{64}{289} + \frac{225}{289} = 1$$

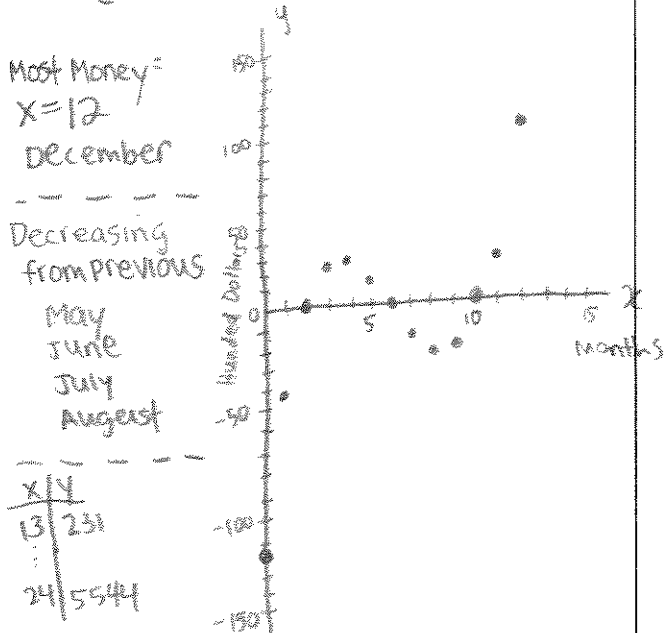
$$\frac{289}{289} = 1$$

$$1 = 1 \checkmark$$

Test 2 #37

$$h(x) = x^3 - 18x^2 + 92x - 120$$

$$x = \{1, 2, 3, \dots, 12\}$$



It seems unlikely that it would continue to increase so much.