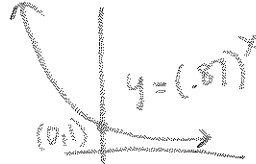
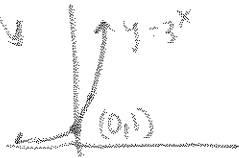


GREEN REVIEW HW #11: Test 4 #24-27, 29-32 and Test 3 #37

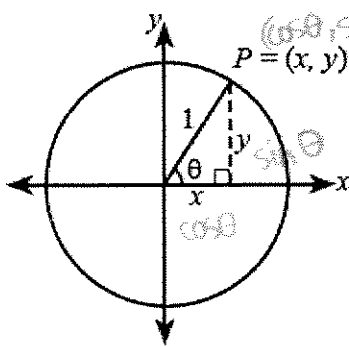
<p>Test 4 #24</p> $(\sqrt{x-7})^2 = (x+1)^2$ $= (x+1)(x+1)$ $x^2 + 2x + 1$ <p>(3) Step 3 is incorrect</p>	<p>Test 4 #25</p> $y = x + 1$ $x^2 + y^2 = 25$ <p>Substitution</p> $x^2 + (x+1)^2 = 25$ $x^2 + x^2 + 2x + 1 = 25$ $2x^2 + 2x - 24 = 0$ $2(x^2 + x - 12) = 0$ $2(x+4)(x-3) = 0$ $x = -4 \quad \quad x = 3$ $y = -3 \quad \quad y = 4$ <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>$(-4, -3)$ and $(3, 4)$</p> </div>
<p>Test 4 #26</p> <p>Low tide 4ft @ 2am High tide 5 hours later - 14 feet</p> <p>period = 10 freq = $\frac{\pi}{10} = \frac{\pi}{5}$ amp = 4 midline = 9</p>	<p>Test 4 #27</p> <p style="text-align: center; font-size: 2em;">SKIP</p>
<p>Test 4 #29</p> $f(-2) = (-2)^5 + 2(-2)^4 - 3(-2)^3 - 6(-2)^2 - 6(-2) - 12$ $= -32 + 32 + 24 - 24 + 12 - 12$ $= 0$ <p>$f(-2) = 0$, so $(x+2)$ is a factor of $f(x)$.</p>	<p>Test 4 #30</p> $\frac{-6}{2(x)} + \frac{5}{2x} = \frac{-6-2x}{12x}$ <p>• Like Denominators</p> $-6 + 5 = -12x$ <p>• solve numerator equation</p> $-1 = -12x$ <p>• combine like terms</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $\frac{y}{12} = x$ </div> <p>• solve for x</p> <p>• check exclusions $x \neq 0$</p>

Test 4 #31

Function	Base b	Growth or decay?	x-intercept $y=0$	y-intercept $x=0$	Increasing or decreasing?
$f(x) = 3^x$	3	growth	$0 = 3^x$ None	$(3)^0 = 1$	increasing
$g(x) = (0.87)^x$.87	decay	$0 = .87^x$ None	$(.87)^0 = 1$	decreasing



Test 4 #32



on the unit circle, points (x, y) are $(\cos \theta, \sin \theta)$.

using the pyth thm for the RT Δ

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

$$\cos^2(\theta) + \sin^2(\theta) = 1 \quad \text{and}$$

$$\sin^2(\theta) + \cos^2(\theta) = 1$$

Test 3 #37

x = fat content (g)

y = calories

(a) Lin. Reg. Eq: $y = 11.993x + 186.883$

(b) corr. coef: $r = .978$

(c) This correlation tells us there is a strong, positive linear relationship between fat content and calories.

(d) slope = $\frac{11.993}{1}$ Calories increase by 11.993 for each additional gram of fat.

(e) $x = 10$ $y = 11.993(10) + 186.883 = 306.813 \xrightarrow{\text{Round}} \boxed{307 \text{ calories}}$