

Name _____

Review # 1

June 2017 Regents

Due: Thurs. 5/28/19

Work must be shown for each question in order to receive credit.

1. Type all into $y=$ and look at what graph matches what's given

$$1.) 0 = (x+3)(x-3)(x-2)$$

$$x=-3 \quad | \quad x=3 \quad | \quad x=2$$

1 1

$$2. \frac{8(2^{x+3})}{8} = \frac{48}{8} \quad x+3 = \frac{\ln(6)}{\ln(2)}$$

$$2^{x+3} = 6$$

$$\ln(2^{x+3}) = \ln(6)$$

$$(x+3)(\ln 2) = \ln(6)$$

$$x = \frac{\ln(6)}{\ln(2)} - 3$$

3. voluntary response = bias
self selection causes bias
since only those that feel strongly will respond

3 2

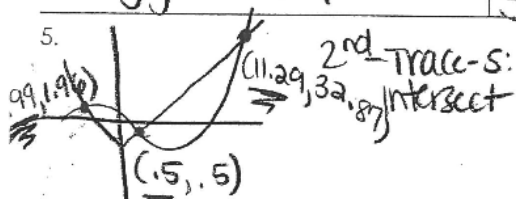
OR: Type in what they gave you, type in each choice - see what is the same.

$$4. 6xi^3(-4xi+5)$$

$$= -6xi(-4xi+5)$$

$$= 24x^2i^2 - 30xi$$

$$= -24x^2 - 30xi$$



$f(x) = g(x)$
only care about x -values.

2 4

$$7. 4x^2 + 98 = 0$$

$$4x^2 = -98$$

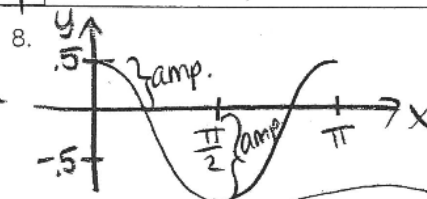
$$\sqrt{x^2} = \sqrt{\frac{-98}{4}}$$

$$x = \pm \frac{\sqrt{49} \sqrt{2}}{\sqrt{4}}$$

$$x = \pm \frac{7\sqrt{2}}{2}$$

OR:
store ans.
in for x and
type into
 $4x^2 + 98$
and see if
you get 0.

4 1



$$a = .5$$

$$\text{period} = \pi$$

$$\therefore 1 \text{ cycle in } \pi$$

$$2 \text{ cycles in } 2\pi$$

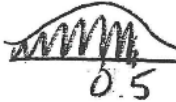
$$1.) y = \frac{1}{2} \cos 2x$$

$$25. r(2) = 2^3 - 4(2)^2 + 4(2) - 6$$

$$= -6$$

Since there is a remainder,
 $x-2$ is not a factor of $r(x)$.

$$26. z = \frac{8.25 - 8}{.5} = .5$$

 normal cdf(-100, .5)
 $= .69$
 $\therefore 69\%$

$$27. 4x^3 - x^2 + 16x - 4$$

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

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

$$33. \begin{array}{r} x+y+z=1 \\ -x+3y-5z=11 \end{array}$$

$$\textcircled{4} 4y - 4z = 12$$

$$\begin{array}{r} 4y - 4z = 12 \\ -10y + 4z = -24 \end{array}$$

$$\begin{array}{r} -6y = -12 \\ y = 2 \end{array}$$

$$\textcircled{4} 4(2) - 4z = 12$$

$$8 - 4z = 12$$

$$-4z = 4$$

$$z = -1$$

$$\textcircled{1} x+y+z=1 \quad \nearrow x=0$$

$$x+2-1=1$$

$$x+1=1$$

$$2x+4y+6z=2$$

$$-2x+6y-10z=22$$

$$\textcircled{5} 10y - 4z = 24$$

$$x = 0$$

$$y = 2$$

$$z = -1$$

$$34. M = ?$$

$$P = 172,600$$

$$r = .00305$$

$$N = 15(12) = 180$$

$$1) M = 172,600 \left(\frac{.00305(1+.00305)^{180}}{(1+.00305)^{180} - 1} \right)$$

$$= \$1247$$

$$2) 1100 = (172,600 - x) \left(\frac{.00305(1+.00305)^{180}}{(1+.00305)^{180} - 1} \right)$$

$$1100 = (172,600 - x)(.0072276558)$$

$$152193.1906 = 172600 - x$$

$$x = 20407$$