Name _____ Review # 6

**January 2018 Regents** Due: Thurs. 6/4/19

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

17. Enter G(t) into Y,
CALCULATE >4:maximum
X= 1.606737 Y=4.0079569
Max for G(t) = $4.01

3 | 3

18. $\frac{c^2-d^2}{d^2+cd-2c^2} = \frac{(c-d)(c+d)}{(d+2c)(d-c)} = \frac{-(c+d)}{d+2c}$
$= -\frac{c-d}{d+2c}$
p=-2, s=1 z, -1
$d^2+2cd-cd-2c^2$
$d(d+2c)-c(d+2c)$
$(d+2c)(d-c)$

3 | 3

19. $P(x)=2x^3-3x+5$ ~$0x^2$
$P(x) \div (x-5) \rightarrow$ Remainder Theorem
x-5 as a factor → x=5 as root
$P(5)=2(5)^3-3(5)+5=240$
Remainder = 240

4 | 2

20. 8 heads occurred 6 or more times out of 50 or 12% of the time.
That's not outside middle 95% of data.

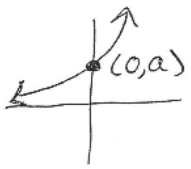
21. $f(x)=-6(x-2)$ switch x+y
$x=-6(y-2)$
$x=-6y+12$
$x-12=-6y$
$\frac{x}{6}-2=y$
$f^{-1}(x)=-2+\frac{1}{6}x$

2 | 2

22. .01, .03, .09, .27 Geometric
$a_1=.01$, $r=3$, $n=20$
$S_n=\frac{a_1-a_1r^n}{1-r}$ $S_{20}=\frac{.01-.01(3)^{20}}{1-3}$
$=\$17,433,922$

2 | 2

23. $g(x)=ab^x$

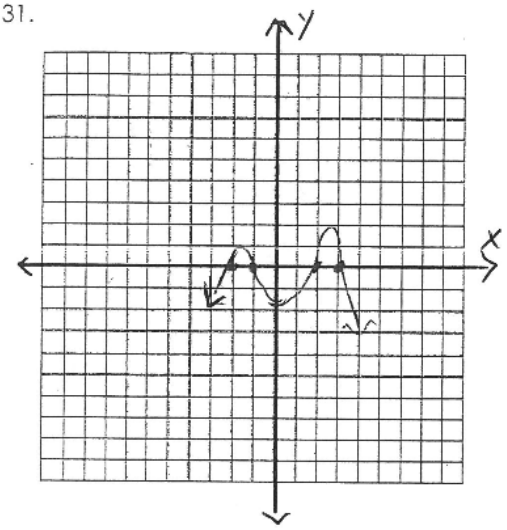



y int is (0,a) ~~not (0,b)~~
no x-int.

24. $a_1=25,000$
$a_n=a_{n-1}+1000$
↗ represents previous term
Recursive → previous term.

4 | 3

31. zeros → x-intercept

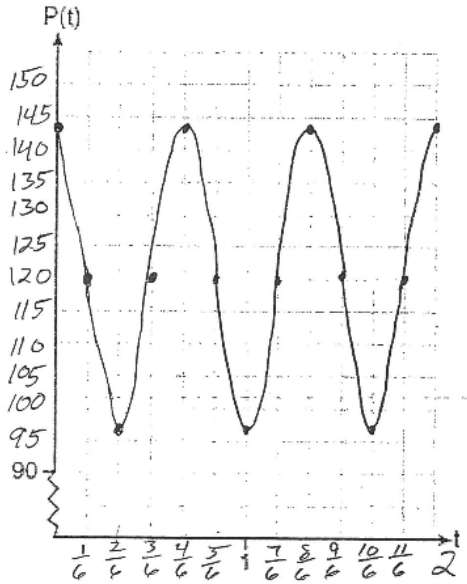



32. $81^{\frac{3}{4}} = (\sqrt[4]{81})^3 = 3^3 = 27$

The denominator of the rational exponent represents the index of the root, and the 4th root of 81 = 3.

$3^3 = 27$.

37.




$P(t) = 24\cos(3\pi t) + 120$

Amp = 24

Max = 24 + 120 = 144

Min = −24 + 120 = 96

Domain: [0, 2]

Range: [96, 144]

Freq: $\frac{\omega}{2\pi} = \frac{3\pi}{2\pi} = \frac{3}{2}$

Period: $\frac{2\pi}{\omega} = \frac{2}{3}$

Xscl: $\frac{\text{Period}}{4} = \frac{1}{6}$

Blood Pressure reaches high every $\frac{2}{3}$ second and reaches low every $\frac{2}{3}$ sec.

$BP = \frac{144}{96}$ is high since normal is $\frac{140}{90}$