

Day 5 Algebra II Warm Up 2-12-16

$f(x) = x^3 - 4x^2 + x + 6$

x-int: $(0,0), (3,0), (1,0)$
 y-int: $(0,6)$
 rel min: $(2.54, -88)$
 rel max: $(.13, 6.06)$
 primarily increasing: Q III and I
 primarily decreasing: none
 domain: $(-\infty, \infty)$
 range: $(-\infty, \infty)$

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Find the following:

1. $\log \sqrt[3]{10}$ 2. $\log 10^6$ 3. $\log 1$ 4. $\log 0.1$

.2 6 0 -1

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Change of Base= $\frac{\log X}{\log b}$

Find the following:

5. $\log_2 5$ 6. $\log_7 10$ 7. $\log_6 2$ 8. $\log_3 17$

$\frac{\log(5)}{\log(2)}$ $\frac{\log 10}{\log 7}$ $\frac{\log 2}{\log 6}$ $\frac{\log 17}{\log 3}$

2.32 1.18 .39 2.58

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Find the following:

9. $11^x = 59$
 $\log_{11} 59 = x$
 $\frac{\log 59}{\log 11} = \boxed{1.7}$

10. $10^x + 5 = 58$
 $10^x = 63$
 $\log 63 = x$ $\boxed{x=1.8}$

11. $\frac{5}{17} \cdot 17^x = \frac{90}{5}$
 $17^x = 18$
 $\log_{17} 18 = x$
 $\frac{\log 18}{\log 17} = \boxed{1.02}$

12. $5^{x+1} + 3 = 14.8$
 $5^{x+1} = 11.8$
 $\log_5 11.8 = x+1$
 $\frac{\log 11.8}{\log 5} = x+1$
 $-1.79 = x+1$
 $\boxed{.79 = x}$

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Find the following:

13. $\log_x 16 = 2$ 14. $\log_{2x} 8 = 3$ 15. $\log_{x-3} 16 = 2$

$\sqrt{x^2} = \sqrt{16}$ $(2x)^3 = 8$ $\sqrt{(x-3)^2} = \sqrt{16}$

$x=4$ $2^3 x^3 = 8$ $x-3 = 4$ or -4

$8x^3 = 8$ $x = 1$ $x = 7$ ~~$x = -1$~~

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Conclusion

- Name one way to solve an exponential/logarithmic equation. Changed Form
- What does change of base mean? $\frac{\log x}{\log b}$
- Rate yourself 1 to 5 on how well you can solve equations. {1-not good to 5-awesome}
- Questions?????????

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Day 5
Assignment
Solving Exponential and
Logarithmic Equations
Wkst

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