1 Multiply

$\frac{3a^5b^7}{a-5b} \cdot \frac{2a-10b}{12a^4b^{10}}$

$\frac{x^3-64}{16x-x^3} \cdot \frac{2x^2+8x+32}{x^2+2x-8}$

2) Multiply

$(2-5i)(8+2i)$

$(3-7i)^2$

3) Solve

$6x^2+11x-10=0$

$3x^2-2x=8$

Determine the constant that should be added to make a perfect square, then factor

x^2+3x

Solve

$5x^2+2=11x$

$3x^2-12x+12=0$

4) $\sqrt{3x+18}=x$

5) $x-13\sqrt{x}+40=0$

6) Solve an inequality

$(x-7)(x+3) \leq 0$

$x^2-5x+4>0$

$x^2+5x+4>0$

$|2(x-1)+4| \leq 8$

$|2x+3| \leq 15$

$|2x+5|-7 > -6$

$\left|\frac{2x+6}{3}\right| > 2$

$|2x+5|-7 \geq -6$

9) Find the distance between

$(4,-1)$ and $(-6,3)$

$(-2,-6)$ and $(-3,4)$

10) Find the midpoint

$(6,8)$ and $(2,4)$

$(-2,-8)$ and $(-6,-2)$

$(-3,-4)$ and $(6,-8)$

11) Even or odd

$f(x) = x^3 + x$

$g(x) = x^2 + x$

$h(x) = x^2 - x^4$

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

$f(x) = \frac{1}{3}x^6 - 3x^2$

$g(x) = x\sqrt{1-x^2}$

12) Determine equation of a circle given center and radius.

$(3,-4)$, $r=6$

$(0,0)$ $r=4$

13) Evaluate the function for the given variable

$f(x) = x^2 + 2x + 3$

$f(-1)$ $\quad$ $f(x+5)$ $\quad$ $f(-x)$

14) Write the equation given shifts and reflections

x^2, shifted right 2

x^2, shifted left 2, up 1 and reflected over x axis

$\sqrt{x}$ shifted left 3

$\sqrt{x}$ shifted left 1 and down 4

5) Given $f(x) = 4x - 3$ and $g(x) = 5x^2 - 2$

find $(f \circ g)(x)$

find $(g \circ f)(2)$

Given $f(x) = x^2 + 2$
find $(f \circ g)(x)$

$g(x) = x^2 - 2$
find $(g \circ f)(2)$

6) $f(x) = \frac{7}{x} - 3$ find $f^{-1}(x)$

Are $f(x) = 3x - 7$ and $g(x) = \frac{x+7}{3}$ inverses

17) Find the vertex

$f(x) = 2(x-3)^2 - 1$ $\quad = 2(x+1)^2 + 5 = g(x)$

$h(x) = 2x^2 - 8x + 3$ $\quad k(x) = -x^2 + 2x + 8$

18) IS The vertex A MINIMUM or MAXIMUM (find vertex also)

$f(x) = 6 - 4x + x^2$ $\quad g(x) = -4x^2 + 8x - 3$

19) Evaluate

$\log_2 64$ $\quad \log_5 \frac{1}{5}$

20) Solve

$2^{2x-1} = 32$ $\quad 4^{2x-1} = 64$

21) Given $A = P\left(1 + \frac{r}{n}\right)^{nT}$

- find, to the nearest tenth, how long will it take $50000.00 to triple in value at 7.5% compounded quarterly

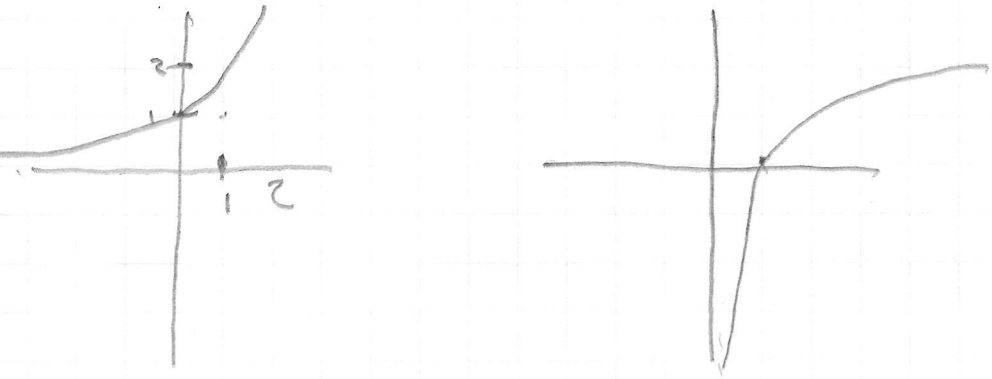
- Given $A = Pe^{rt}$ solve the same as above

Now for $

22) Write in exponential form

$\frac{1}{2} = \log_{4A} 7$ $\quad 3 = \log_4 x$ $\quad \log_3 81 = y$

23) Which graph is logarithmic



24) Write in condensed form:

$2\ln x + \frac{1}{3}\ln(x+5)$ $\quad \frac{1}{4}\log_b x - 2\log_b 5 - 10\log_b y$

25) Use change of base to evaluate

$\log_5 13$ $\quad \log_{0.1} 17$

26) Solve — solve for EXTRA CREDIT email me answer

$3^{2x} + 3^x - 2 = 0$ $\quad 5^x = 17$

$7^{x+2} = 410$

27) Solve:

$\log_2(x-2) - \log_2(x-5) = 3$