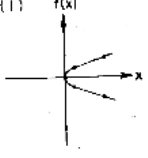
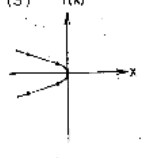
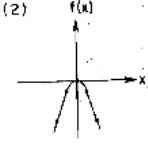
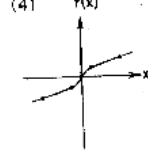


<p>1. Express $\log_3 \sqrt{\frac{m}{n}}$ in terms of $\log m$ and $\log n$.</p>	<p>2. If $\log 2 = x$ and $\log 3 = y$, express each of the following in terms of x and y.</p> <p>a. $\log \sqrt{6}$ b. $\log 24$</p>	<p>1. _____</p> <p>2. _____</p>
<p>3. Evaluate each of the following:</p> <p>$\log_2 2$ $\log_3 3$ $\log_8 8$ $\log_b b$</p>	<p>4. Evaluate each of the following:</p> <p>$\log_2 2^4$ $\log_3 3^2$ $\log_5 5^3$ $\log 10^n$ $\log_b b^n$</p>	<p>3. _____</p> <p>4. _____</p>
<p>5. State the domain and range of each function:</p> <p>a) $y = 10^x + 5$ b) $y = \log(x - 5)$</p>	<p>6. Solve algebraically for x:</p> $\left(\frac{1}{49}\right)^{x+1} = 343^x$	<p>5. _____</p> <p>6. _____</p>
<p>7. Solve for N in terms of x and y:</p> $\log N = 2 \log x + \log y$	<p>8. Solve for x: $\log x - \frac{1}{3} \log 8 = \log 7$</p>	<p>7. _____</p> <p>8. _____</p>
<p>9. If $f(x) = x^2$, which of the graphs to the right represents the inverse of $f(x)$?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>(1)</p>  </div> <div style="text-align: center;"> <p>(3)</p>  </div> <div style="text-align: center;"> <p>(2)</p>  </div> <div style="text-align: center;"> <p>(4)</p>  </div> </div>	<p>10. The roots of the equation $3x^2 - 4x - 5 = 0$ are</p> <p>(1) real, rational, and equal (2) real, rational, and unequal (3) real, irrational, and unequal (4) imaginary</p>	<p>9. _____</p> <p>10. _____</p>

11. Solve for x : $\log_4(x - 3) + \log_4(x + 3) = 2$

11.

12. If $\log N = \frac{1}{2}(\log r - 2 \log t) + \log s$, then $N =$

- (1) $\frac{\sqrt{rs}}{t}$ (2) $\frac{s\sqrt{r}}{t}$ (3) $\sqrt{\frac{r+s}{t^2}}$ (4) $\sqrt{\frac{r}{t^2}} + s$

12.

13. If $g(x) = \left(\frac{1}{64}\right)^x$ and $f(x) = x^{\frac{5}{2}}$,
find $f\left(g\left(-\frac{1}{3}\right)\right)$.

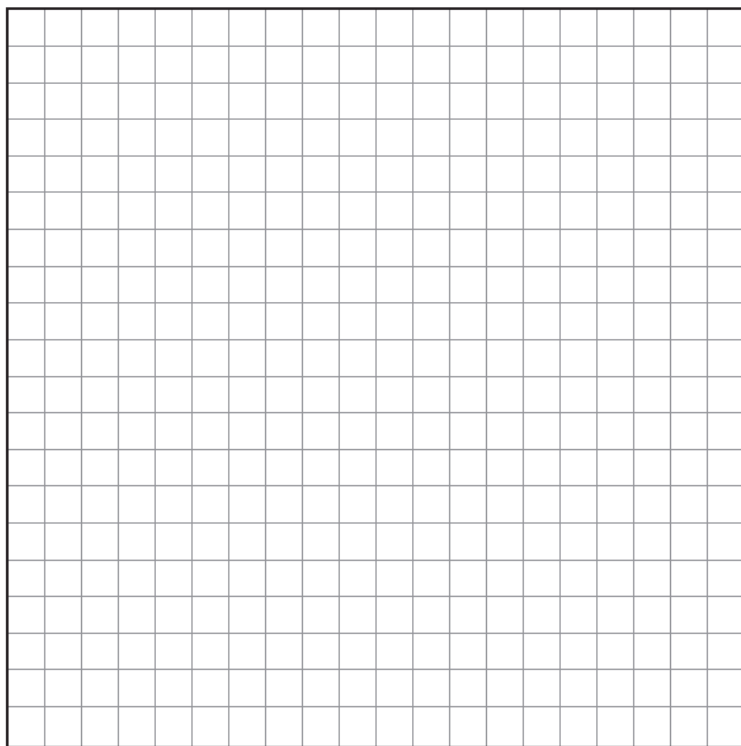
14. Which of the following is *not* true about the graph of the equation $y = \left(\frac{1}{5}\right)^{-x}$?

- (1) It contains the point (0, 1).
 (2) Its domain is all real numbers and its range is all positive real numbers.
 (3) It is the inverse of $y = \left(\frac{1}{5}\right)^x$.
 (4) It is the same as the graph of $y = 5^x$.

13.

14.

15. a) Draw the graph of the equation $y = -2x^2 + 8x$ for all values of x from $x = -1$ to $x = 5$.
 b) State the equation of the axis of symmetry.
 c) Draw the image of the parabola drawn in part a after a reflection in the line $y = x$, and state its equation.
 d) State the equation of the axis of symmetry of the parabola drawn in part c.
 e) Describe the relationship between the equations of the two parabolas.



15.