

1. Reflection over y-axis
 Horizontal Shrink to $\frac{1}{3}x$
 Vertical Shrink to $\frac{1}{2}x$
 Reflection over x-axis
 up 6

(8.) $\frac{x}{y} \cdot \frac{3}{4x^5} = \frac{3x}{4x^5 y} = \frac{3}{4x^4 y}$

2. $162 = ab^5$
 $6 = ab^2$ $6 = a(3)^2$
 $27 = b^3$ $2/3 = a$
 $3 = b$
 $y = 2/3 (3)^x$

(b) $\frac{y}{y-3} \cdot \frac{-3}{y} = \frac{-3y}{y(y-3)} = \frac{-3}{y-3}$

(9.) $\frac{2x^2 - 5x - 3}{x^2 - 9} \xrightarrow{\text{BOX + DIAMOND}} \frac{(2x+1)(x-3)}{(x-3)(x+3)} = \frac{2x+1}{x+3}$

3. $x = 4\sqrt[3]{2y-5}$ $x = \frac{y}{2y+3}$
 $\frac{x}{4} = \sqrt[3]{2y-5}$
 $(\frac{x}{4})^3 = 2y-5$
 $(\frac{x}{4})^3 + 5 = 2y$
 $\frac{1}{2} [(\frac{x}{4})^3 + 5] = y$

$2yx + 3x = y$
 $3x = y - 2yx$
 $3x = y(1-2x)$
 $y = \frac{3x}{1-2x}$

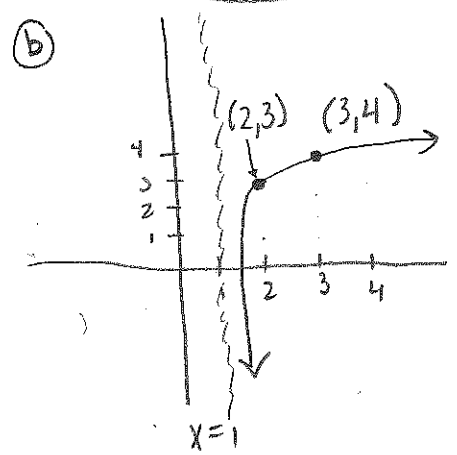
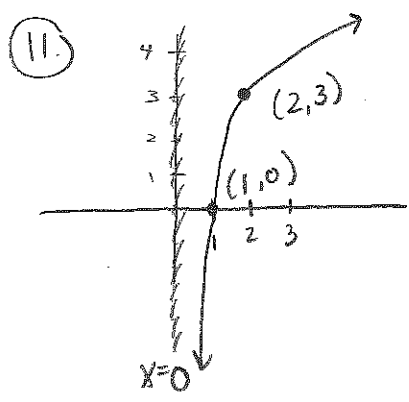
(b) $4x^2 - 9 \leftarrow \text{DOTS!}$ $\frac{(2x-3)(2x+3)}{2(2x+3)} = \frac{2x-3}{2}$

(c) $35x^2y + 5xy^3 \xrightarrow{\text{GCF}} 5xy(7x + y^2)$

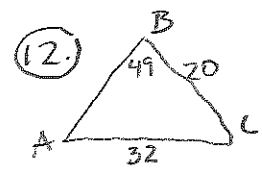
(10.) $2 \cdot 4^x \cdot 4^3 = 2 \cdot 4^x \cdot 64 = 128 \cdot 4^x$
 $3 \cdot 2^{2x} \cdot 2^{-2} = 3 \cdot 4^x \cdot \frac{1}{4} = \frac{3}{4} \cdot 4^x$
 $\frac{1}{4} \cdot 4^{3x} \cdot 4^{-1} = \frac{1}{4} \cdot 64^x \cdot \frac{1}{4} = \frac{1}{16} \cdot 64^x$

4. $C^P = T$ $\log_R M = L$

5. $6^x = \frac{1}{216}$ $3(2^x = 32)$
 $6^x = 6^{-3}$ $3(2^x = 2^5)$
 $3(5)$
 15



6. $\log(\frac{x}{w}) + \log p$
 $\log(\frac{x^3}{y^{1/2}})$
 $\log_2(\frac{x^3}{\sqrt{y}})$



$\sin A = \frac{\sin 49}{20} = \frac{32}{32}$
 $15.094 = 32 \sin A$
 $.47169 = \sin A$
 $\sin^{-1}(\text{ANS})$
 $A \approx 28.14^\circ$

(13.) $(16x^3y^4)^{-1/4} \leftarrow \sqrt[4]{\quad}$
 $(2x^2y)^{-1} \leftarrow \text{reciprocal}$
 $\frac{1}{2x^2y}$
 $\frac{1}{(5x^2/4y^3)^{1/2}} \leftarrow \text{reciprocal}$
 $(\frac{4y^3}{5x^2})^2 \cdot \frac{4y^3}{5x^2} \cdot \frac{4y^3}{5x^2} = \frac{16y^6}{25x^4}$

7. $\log 4^x = \log 398$
 $x(\log 4) = \log 398$
 $x = \frac{\log 398}{\log 4} \approx 4.318$

$\frac{228}{3} = \frac{3(2)^x}{3}$
 $76 = 2^x$
 $\log 76 = \log 2^x$
 $\log 76 = x(\log 2)$
 $\frac{\log 76}{\log 2} = x$
 $6.248 \approx x$