① Standard Deviation: 0, 8, 10

$\frac{0+8+10}{3} = \frac{18}{3} = 6$ $\sqrt{\frac{(0-6)^2+(8-6)^2+(10-6)^2}{3}} = \sqrt{\frac{36+4+16}{3}} = \sqrt{\frac{56}{3}}$ $3\overline{)56}^{18}$ $\frac{-3}{26}$ $\sqrt{18} \approx \boxed{4.2}$

② $(x^{-12})^{-\frac{1}{3}} =$

$x^{-12(-\frac{1}{3})} = \boxed{x^4}$

③ 4 large Green, 6 small green, 3 small blue P(small or green)

P(Small) + P(Green) − P(Small Green)

$\frac{9}{13} + \frac{10}{13} - \frac{6}{13} = \frac{13}{13} = \boxed{100\%}$

④ $\log_4\left(\frac{1}{64}\right) =$

$4^x = \frac{1}{64} \rightarrow 4^x = \frac{1}{4^3} \rightarrow 4^x = 4^{-3}$ $\boxed{-3}$ or $\log_4 1 - \log_4 64$

$0 - 3 = \boxed{-3}$

⑤ $\log_2 12 - \log_2 3 =$

$\log_2\left(\frac{12}{3}\right) = \log_2 4 = 2^x = 4 = \boxed{2}$

⑥ Compound continuously P=$100 r=12%, How long to triple?

$A = Pe^{rt}$ $\frac{300}{100} = \frac{100e^{.12t}}{100}$ $3 = e^{.12t}$ $e^{.12t} = 3$ $\frac{\log_e 3}{.12} = \frac{.12t}{.12}$ $\boxed{t = \frac{\ln 3}{.12}}$

⑦ $y = A\left(\frac{1}{3}\right)^{\frac{t}{10}}$ $A=4$ $t=-20$ $y=?$

$y = 4\left(\frac{1}{3}\right)^{\frac{-20}{10}} = 4\left(\frac{1}{3}\right)^{-2} = 4(3)^2 = 4(9) = \boxed{36}$

(8)

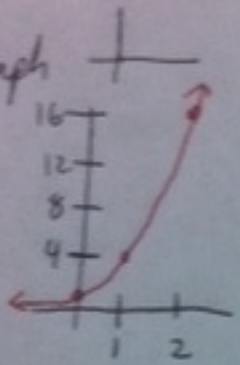
years	People
0	2000
1	500
2	125

$y =$

$\boxed{y = 2000\left(\frac{1}{4}\right)^t}$

(9) $y = 4^x$ Graph

x	y	
0	1	4^0
1	4	4^1
2	16	4^2



$y = 1(4)^x$

(10) $(-5y^3x)^2(3x^{-3}y)^{-3}$

$(25y^6x^2)\left(\frac{1}{27}x^9y^{-3}\right) = \frac{25}{27}x^{2+9}y^{6+-3} = \boxed{\frac{25x^{11}y^3}{27}}$

(11) A: 5 Red, 6 Blue B: 3 Yellow, 2 Blue P(Both Blue)

$\frac{6}{11} \cdot \frac{2}{5} = \boxed{\frac{12}{55}}$

(12) $\log_5 25^3$ Evaluate

$3\log_5 25 = 3(2) = \boxed{6}$ $\log_5 25 = x$ $5^x = 25$ $x = 2$