

Assignment

Date _____ Period _____

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Use a calculator to approximate each to the nearest thousandth.

1) $\log_3 2.5$

2) $\log_6 14$

3) $\log_4 55$

4) $\log_6 67$

5) $\ln 15$

6) $\log_2 2.1$

7) $\log_4 5.1$

8) $\log_7 6.3$

9) $\ln 32$

10) $\log_5 7$

$$11) \log_3 4.7$$

$$12) \log_4 18$$

$$13) \log_2 2.37$$

$$14) \log 25$$

$$15) \log 18$$

Rewrite each equation in exponential form.

$$16) \log_{11} 121 = 2$$

$$17) \log_7 343 = 3$$

$$18) \log_{18} 1 = 0$$

$$19) \log_4 64 = 3$$

$$20) \log_{19} 361 = 2$$

$$21) \log_{144} \frac{1}{12} = -\frac{1}{2}$$

$$22) \log_{11} \frac{1}{121} = -2$$

$$23) \log_8 64 = 2$$

$$24) \log_4 16 = 2$$

$$25) \log_{15} 225 = 2$$

Rewrite each equation in logarithmic form.

$$26) \left(\frac{1}{4}\right)^2 = \frac{1}{16}$$

$$27) 64^{\frac{1}{2}} = 8$$

$$28) 16^{-2} = \frac{1}{256}$$

$$29) 16^2 = 256$$

30) $4^2 = 16$

31) $8^2 = 64$

32) $5^3 = 125$

33) $12^2 = 144$

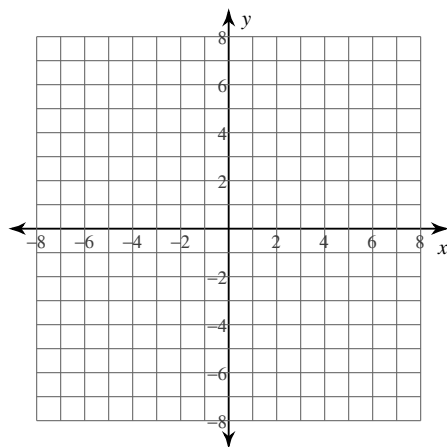
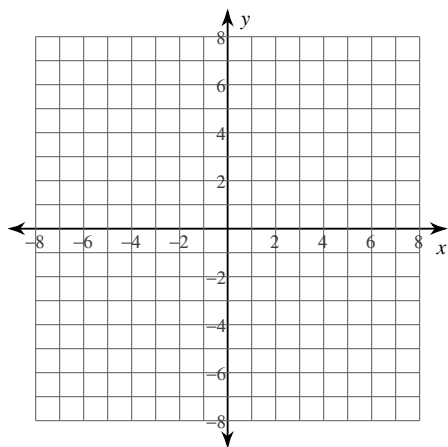
34) $20^2 = 400$

35) $19^{-2} = \frac{1}{361}$

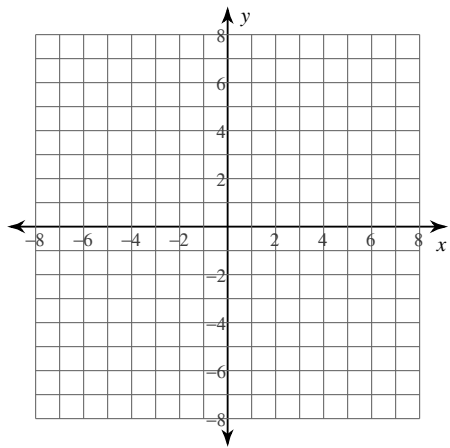
Identify the domain and range of each. Then sketch the graph.

36) $y = \log(x + 4) - 1$

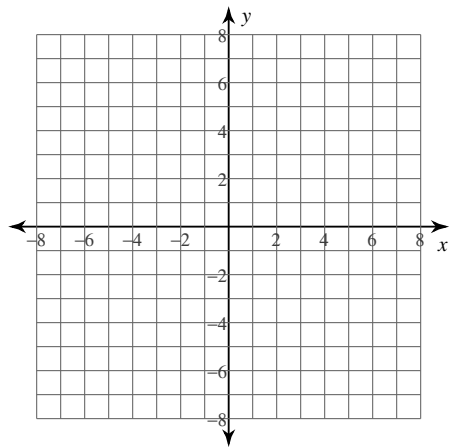
37) $y = \log(x + 2) - 2$



$$38) y = \log(x - 1) + 3$$



$$39) y = \log(x - 1) + 2$$



Assignment

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Use a calculator to approximate each to the nearest thousandth.

1) $\log_3 2.5$

0.834

2) $\log_6 14$

1.473

3) $\log_4 55$

2.891

4) $\log_6 67$

2.347

5) $\ln 15$

2.708

6) $\log_2 2.1$

1.07

7) $\log_4 5.1$

1.175

8) $\log_7 6.3$

0.946

9) $\ln 32$

3.466

10) $\log_5 7$

1.209

$$11) \log_3 4.7$$

$$1.409$$

$$12) \log_4 18$$

$$2.085$$

$$13) \log_2 2.37$$

$$1.245$$

$$14) \log 25$$

$$1.398$$

$$15) \log 18$$

$$1.255$$

Rewrite each equation in exponential form.

$$16) \log_{11} 121 = 2$$

$$11^2 = 121$$

$$17) \log_7 343 = 3$$

$$7^3 = 343$$

$$18) \log_{18} 1 = 0$$

$$18^0 = 1$$

$$19) \log_4 64 = 3$$

$$4^3 = 64$$

$$20) \log_{19} 361 = 2$$

$$19^2 = 361$$

$$21) \log_{144} \frac{1}{12} = -\frac{1}{2}$$

$$144^{-\frac{1}{2}} = \frac{1}{12}$$

$$22) \log_{11} \frac{1}{121} = -2$$

$$11^{-2} = \frac{1}{121}$$

$$23) \log_8 64 = 2$$

$$8^2 = 64$$

$$24) \log_4 16 = 2$$

$$4^2 = 16$$

$$25) \log_{15} 225 = 2$$

$$15^2 = 225$$

Rewrite each equation in logarithmic form.

$$26) \left(\frac{1}{4}\right)^2 = \frac{1}{16}$$

$$\log_{\frac{1}{4}} \frac{1}{16} = 2$$

$$27) 64^{\frac{1}{2}} = 8$$

$$\log_{64} 8 = \frac{1}{2}$$

$$28) 16^{-2} = \frac{1}{256}$$

$$\log_{16} \frac{1}{256} = -2$$

$$29) 16^2 = 256$$

$$\log_{16} 256 = 2$$

30) $4^2 = 16$

$\log_4 16 = 2$

31) $8^2 = 64$

$\log_8 64 = 2$

32) $5^3 = 125$

$\log_5 125 = 3$

33) $12^2 = 144$

$\log_{12} 144 = 2$

34) $20^2 = 400$

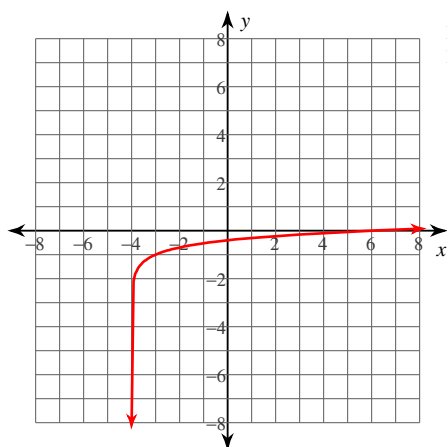
$\log_{20} 400 = 2$

35) $19^{-2} = \frac{1}{361}$

$\log_{19} \frac{1}{361} = -2$

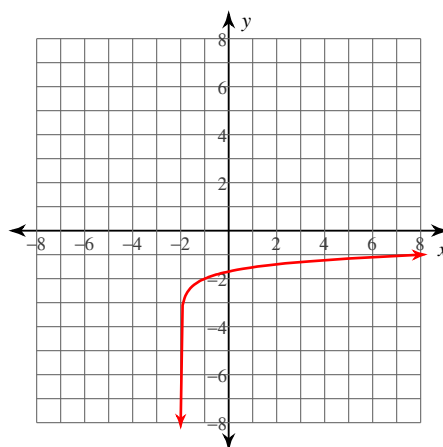
Identify the domain and range of each. Then sketch the graph.

36) $y = \log(x + 4) - 1$



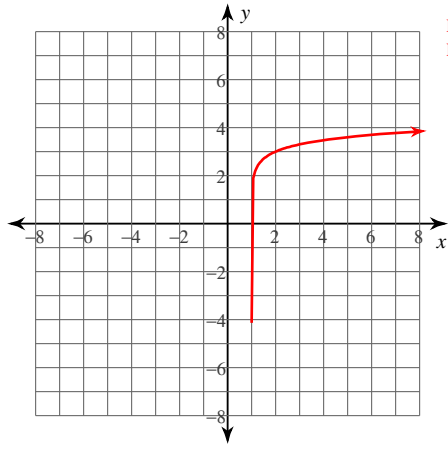
Domain: $x > -4$
Range: All reals

37) $y = \log(x + 2) - 2$



Domain: $x > -2$
Range: All reals

38) $y = \log(x - 1) + 3$



39) $y = \log(x - 1) + 2$

