

~~P 106 # 35-42~~ Find transformations without graphing

Parent

35. $r(x) = \sqrt{x-10}$
 right 10 $\underbrace{10}_h$

~~$\sqrt{x}$~~

36. $f(x) = \sin(x) + 5$
 up 5 $\underbrace{+5}_K$

~~$\sin x$~~

37. $f(x) = \frac{3}{1+e^{-x}}$
 or $\underbrace{3}_K$ v. stretch by 3 $\frac{1}{1+e^{-x}}$

38. $q(x) = e^x + 2$ up 2

~~e^x~~

39. $h(x) = |x| - 10$ $\underbrace{-10}_K$

down 10

$|x|$

40. $g(x) = 4 \cos x$
 $\underbrace{4}_a$

$a > 1$ v. stretch by 4

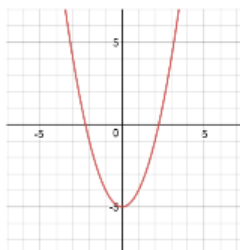
~~$\cos x$~~

41. $s(x) = |x-2|$ right 2
 $\underbrace{2}_h$

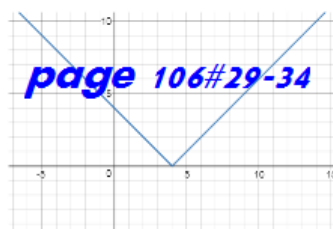
42. $f(x) = -5 - \text{abs}(x)$
 $= -\underbrace{5}_a |x| - \underbrace{5}_K$

up 5

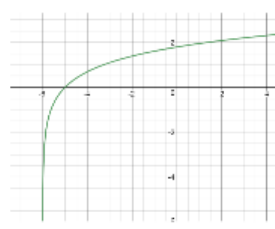
Reflection
 over x-axis.



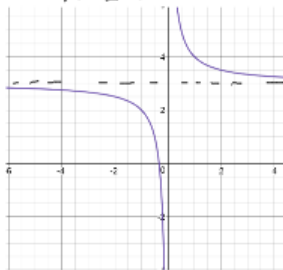
29. $x^2 - 5$
 $D: (-\infty, \infty)$
 $R: [-5, \infty)$



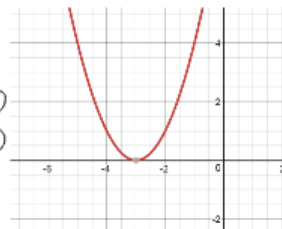
30. $|x - 4|$
 $D: (-\infty, \infty)$
 $R: [0, \infty)$



31. $\ln(x + 6)$
 $D: (-6, \infty)$
 $R: (-\infty, \infty)$



32. $\frac{1}{x} + 3$
 $D: (-\infty, 0) \cup (0, \infty)$
 $R: (-\infty, 3) \cup (3, \infty)$



34. $(x + 3)^2$
 $D: (-\infty, \infty)$
 $R: [0, \infty)$