1. Find the value of each function:

$f(x) = x^2 - 4x - 2; f(3)$	$f(x) = \dfrac{4x-3}{x^2-5x+2}; f(-2)$
$f(x) = x^2 - 4x - 2$	$f(x) = \dfrac{4x-3}{x^2-5x+2}$
$f(3) = (3)^2 - 4(3) - 2$	$f(-2) = \dfrac{4(-2)-3}{(-2)^2-5(-2)+2}$
$f(3) = 9 - 12 - 2$	$f(-2) = \dfrac{-8-3}{4+10+2}$
$f(3) = -3 - 2$	$f(-2) = \dfrac{-11}{16}$
$f(3) = -5$	

2. Find the domain of $f(x) = \dfrac{4x-1}{3x-5}$

$3x - 5 = 0$

$3x = 5$

$\dfrac{3x}{3} = \dfrac{5}{3}$

$x = \dfrac{5}{3}$

$x \neq \dfrac{5}{3}$

3. Graph:

$f(x) = x^3 - 2$	$f(x) = (x-2)^2 + 1$	$f(x) = \lvert x+3 \rvert$
"y=" button "clear" button "x-key" button "^" button 3 "minus" button 2 "graph" button	"y=" button "clear" button "(" button "x-key" button "minus" button 2 ")" button "x squared" button "plus" button 1 "graph" button	"y=" button "clear" button "math" button "right arrow" button "enter" button on abs("x-key" button "plus" button 3 ")" button "graph" button

4. Graph and find the zero of:

$f(x) = \dfrac{-4}{5}x + 3$ Graph: "y=" button "negative" button 4 "divided by" button 5 "x-key" button "plus" button 3 "graph" button Zero: $\dfrac{-4}{5}x + 3 = 0$ $5\left(\dfrac{-4}{5}x\right) + 5(3) = 5(0)$ $-4x + 15 = 0$ $-4x = -15$ $\dfrac{-4x}{-4} = \dfrac{-15}{-4}$ $x = \dfrac{15}{4}$	$f(x) = 9x + 5$ Graph: "y=" button 9 "x-key" button "plus" button 5 "graph" button Zero: $9x + 5 = 0$ $9x = -5$ $\dfrac{9x}{9} = \dfrac{-5}{9}$ $x = \dfrac{-5}{9}$

5. Solve:

$-2 < 8x + 3 \leq 19$ $-2 < 8x + 3 \leq 19$ $-2 - 3 < 8x \leq 19 - 3$ $-5 < 8x \leq 16$ $\dfrac{-5}{8} < \dfrac{8x}{8} \leq \dfrac{16}{8}$ $\dfrac{-5}{8} < x \leq 2$	$1 < \dfrac{1}{2}x - 3 \leq 5$ $1 < \dfrac{1}{2}x - 3 \leq 5$ $2(1) < 2\left(\dfrac{1}{2}x\right) + 2(-3) \leq 2(5)$ $2 < x - 6 \leq 10$ $2 + 6 < x \leq 10 + 6$ $8 < x \leq 16$

6. Solve: $5x - 7 < 23 \quad and \quad 4x + 10 > 2$

$5x - 7 < 23 \quad and \quad 4x + 10 > 2$

$5x - 7 < 23 \quad and \quad 4x + 10 > 2$

$5x < 23 + 7 \qquad 4x > 2 - 10$

$5x < 30 \qquad\qquad 4x > -8$

$\dfrac{5x}{5} < \dfrac{30}{5} \qquad \dfrac{4x}{4} > \dfrac{-8}{4}$

$x < 6 \qquad\qquad x > -2$

so

$(-2, 6)$

7. Solve: $|11x - 1| = 21$

$|11x - 1| = 21$

$11x - 1 = 21 \qquad 11x - 1 = -21$

$11x = 21 + 1 \qquad 11x = -21 + 1$

$11x = 22 \qquad\qquad 11x = -20$

$\dfrac{11x}{11} = \dfrac{22}{11} \qquad \dfrac{11x}{11} = \dfrac{-20}{11}$

$x = 2 \qquad\qquad x = \dfrac{-20}{11}$

8. Solve: $5|x-1|-3=22$

$5|x-1|-3=22$

$5|x-1|=22+3$

$5|x-1|=25$

$\dfrac{5|x-1|}{5}=\dfrac{25}{5}$

$|x-1|=5$

$x-1=5 \quad x-1=-5$

$x=5+1 \quad x=-5+1$

$x=6 \qquad x=-4$

9. Solve: $|7x+2|>3$

$|7x+2|>3$

$7x+2<-3 \quad or \quad 7x+2>3$

$7x<-3-2 \qquad 7x>3-2$

$7x<-5 \qquad\qquad 7x>1$

$\dfrac{7x}{7}<\dfrac{-5}{7} \qquad\qquad \dfrac{7x}{7}>\dfrac{1}{7}$

$x<\dfrac{-5}{7} \qquad\qquad x>\dfrac{1}{7}$

$x<\dfrac{-5}{7} \quad or \quad x>\dfrac{1}{7}$

10. Solve: $|4x-2|<8$

$|4x-2|<8$

$-8<4x-2<8$

$-8+2<4x<8+2$

$-6<4x<10$

$\dfrac{-6}{4}<\dfrac{4x}{4}<\dfrac{10}{4}$

$\dfrac{-3}{2}<x<\dfrac{5}{2}$