10-28-13
3rd Trig

RQ 9

④ -12 ± 8

⑤ $\frac{3}{6} = \frac{1}{2}$

⑧ $(x+5)(x-4)$

$g(x) = x^2 \quad h(x) = x-2$

$g(h(x)) = g(x-2)$

$= (x-2)^2 \rightarrow (x-2)(x-2)$

x^2-4x+4

$h(h(h(4)))$

$h(h(2))$

$h(0) = 0-2 = -2$

$d(x) = 3x-1$

$d(d(d(x)))$

$d(d(3x-1))$

$3(3x-1)-1$

$9x-3-1$

$9x-4$

$d(9x-4)$

$3(9x-4)-1$

$27x-12-1$

$27x-13$

$g(x) = 10x$

$g(g(g(x)))$

$g(g(10x))$

$10 \cdot 10x$

$100x$

$g(100x)$

$= 10 \cdot (100x)$

$1000x$

Give the domain

$$f(x) = \frac{6+2x}{x-10}$$

$\mathbb{R}$ except $x \neq 10$

$$f(x) = \sqrt{x+4}$$

$$x+4 \geq 0$$
$$-4 \quad -4$$

$\mathbb{R}$: $x \geq -4$

$$f(x) = 3x^2 - 9$$

$\mathbb{R}$

$$f(x) = \frac{x^{100}}{(x-3)(x+2)}$$

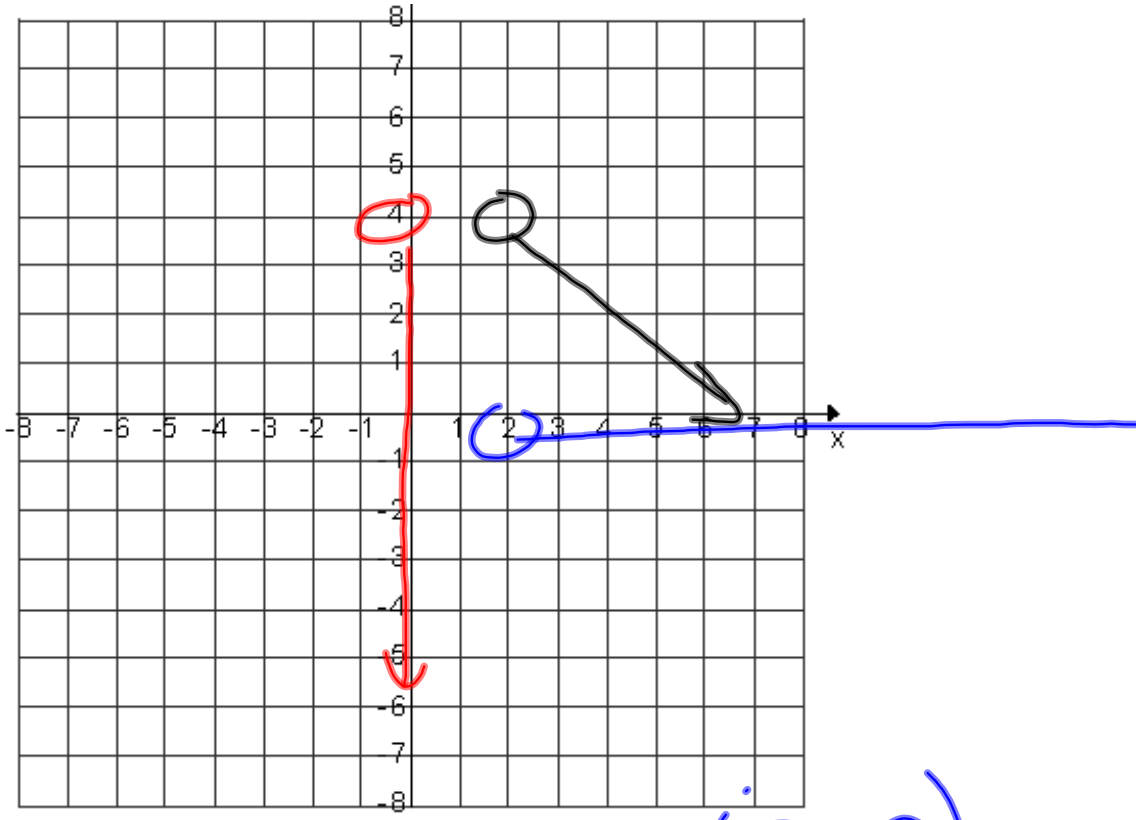
$\mathbb{R}$ except $x \neq 3, -2$

Put in interval notation

$x > 8$ $\quad (8, \infty)$

$x \leq 9$ $\quad (-\infty, 9]$

$-2 < x \leq 10$ $\quad (-2, 10]$



Domain: $\mathbb{R} : x > 2$ $(2, \infty)$

Range: $\mathbb{R} : y \leq 4$ $(-\infty, 4]$

10-27-13
4th Trig

RQ 9

④ -12 ± 8

⑤ $\frac{3}{6} = \frac{1}{2}$

⑧ $(x+5)(x-4) = 0$

$x = -5$ or 4

$f(x) = 5x^2 \quad g(x) = x + 1$

$-4 + 1$

-3

$f(g(-4))$

$f(-3) = 5 \cdot (-3)^2$

$5 \cdot 9 = 45$

$f(f(x)) = f(5x^2)$

$5(5x^2)^2$

$5 \cdot 5x^2 \cdot 5x^2$

$5 \cdot 25x^4$

$125x^4$

$g(n) = 2n + 5$

$g(g(g(n))) = g(g(2n+5))$

$2(2n+5) + 5$

$4n + 10 + 5$

$(4n + 15)$

$g(4n+15)$

$2(4n+15) + 5$

$8n + 30 + 5$

$8n + 35$

Interval Notation

① $n \geq 8$ $[8, \infty)$

② $1 \leq x < 10$ $[1, 10)$

③ $x < -4$ $(-\infty, -4)$

Give Domain of the following

① $f(x) = \frac{8+x^4}{x-1}$

D: $\mathbb{R}$ except $x \neq 1$

② $f(x) = x^2 - 25$

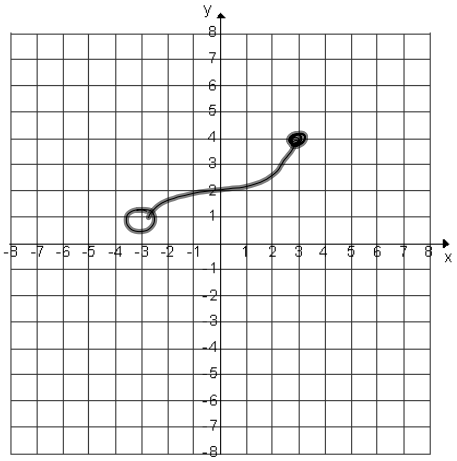
Domain: $\mathbb{R}$

③ $f(x) = \sqrt{x-10}$

$x - 10 \geq 0$

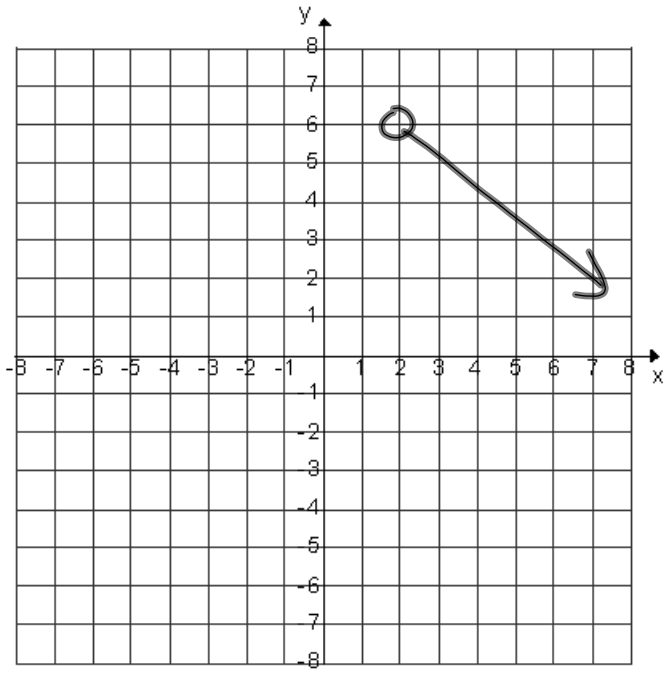
$+10 \quad +10$

$\mathbb{R}$: $x \geq 10$



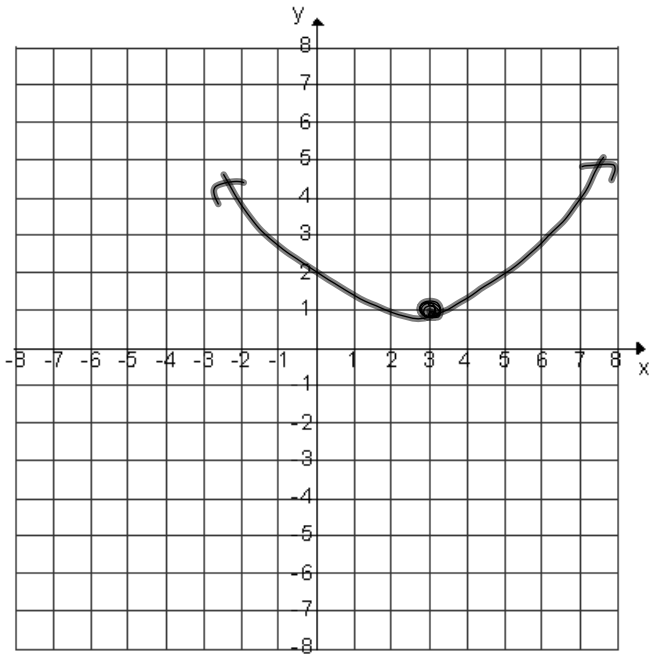
Domain: $-3 < x \leq 3$

Range: $1 < y \leq 4$



Domain: $\mathbb{R}$: $x > 2$

Range: $\mathbb{R}$: $y < 6$



Domain: $\mathbb{R}$

Range: $\mathbb{R}$: $y \geq 1$