

Today's Plan:

Learning Target (standard): I will review for the semester exam.

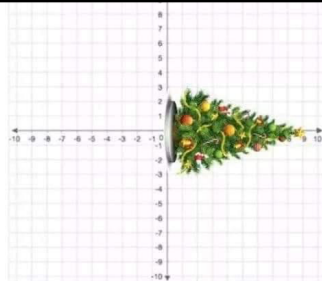
Students will: Complete practice problems over previous concepts at the boards and study for my exam.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of exam problems.

Assessment: Board work

Differentiation: Students will work at the board, actively engage in practice review concepts with the aid of other students and the teacher.

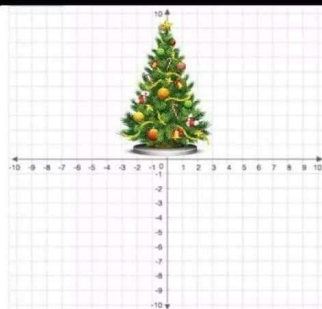
X-mas tree



And "coordinating"
wrapping paper is a plus!



Y-mas tree



15) Graph using transformations. Find the domain and range.

$f(x) = -2\sqrt{\frac{1}{2}x - 4} - 2$

parent: $f(x) = \sqrt{x}$

- $f(x) = -\sqrt{x}$ r.x
- $f(x) = -2\sqrt{x}$ v.s. by 2
- $f(x) = -2\sqrt{\frac{1}{2}x}$ h.s. by 2
- $f(x) = -2\sqrt{\frac{1}{2}(x-8)}$ shift right 8
- $f(x) = -2\sqrt{\frac{1}{2}x-4} - 2$ shift down 2

D: $\{x | x \geq 8\}$
 R: $\{y | y \leq -2\}$

16) Graph using transformations. Find the domain and range.

$f(x) = 3|-2x-6|+4$

parent: $f(x) = |x|$

- $f(x) = |-x|$ r.y
- $f(x) = 3|-x|$ v.s. by 3
- $f(x) = 3|-2x|$ h.c. by 1/2
- $f(x) = 3|-2(x+3)|$ shift left 3
- $f(x) = 3|-2x-6|+4$ shift up 4

D: \mathbb{R}
 R: $\{y | y \geq 4\}$

Perform the indicated operation.

17) $g(x) = x + 1$
 $h(x) = -x^3 + 3x^2$
 Find $(g-h)(x)$

$(g-h)(x) = g(x) - h(x)$
 $= (x+1) - (-x^3 + 3x^2)$
 $= x+1+x^3-3x^2$
 $(g-h)(x) = x^3-3x^2+x+1$

18) $g(a) = 2a^3 + 3a^2$
 $f(a) = 3a - 2$
 Find $(g-f)(a)$

$(g-f)(a) = g(a) - f(a)$
 $= (2a^3 + 3a^2) - (3a - 2)$
 $(g-f)(a) = 2a^3 + 3a^2 - 3a + 2$
 $(g-f)(-4) = (-4-4)(-4-1)$
 $= -8 \cdot -5$
 $(g-f)(-4) = 40$

19) $g(t) = -2t - 5$
 $h(t) = 2t + 1$
 Find $(3g-h)(-8)$

$3g(t) = 3(-2t-5)$
 $3g(t) = -6t-15$
 $(3g-h)(t) = -6t-15 - (2t+1)$
 $= -6t-15-2t-1$
 $(3g-h)(t) = -8t-16$
 $(3g-h)(-8) = -8(-8)-16$
 $= 64-16$
 $(3g-h)(-8) = 48$

20) $g(x) = x - 4$
 $f(x) = x - 1$
 Find $(g \cdot f)(-4)$

$(g \cdot f)(-4) = (-4-4)(-4-1)$
 $= -8 \cdot -5$
 $(g \cdot f)(-4) = 40$

Use the information provided to write the transformational form equation of each parabola.

21) Vertex: $(-2, -9)$, Focus: $(-2, -\frac{35}{4})$

22) Vertex: $(1, 9)$, Directrix: $x = \frac{5}{4}$