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 accuarcy and provide students feedback, describe and provide examples of exam problems.

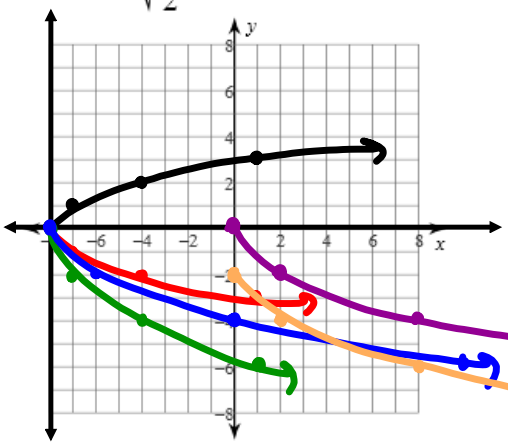
Assessment: Board work

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
Y-mas tree
reddit

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

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



x	y
0	0
1	1
4	2
9	3

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

1) $f(x) = -\sqrt{x}$ r_x

2) $f(x) = -2\sqrt{x}$ v.s. by 2

3) $f(x) = -2\sqrt{\frac{1}{2}x}$ h.s. by 2

4) $f(x) = -2\sqrt{\frac{1}{2}(x-8)}$ shift right 8

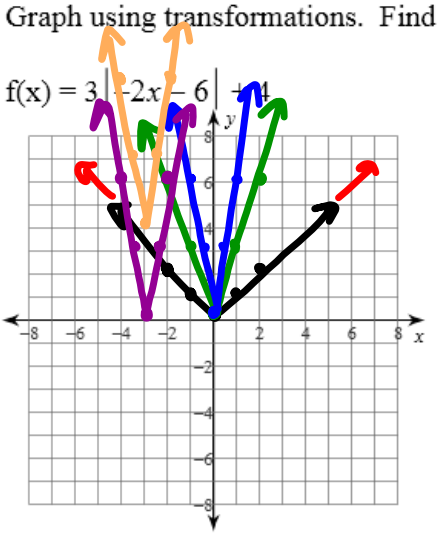
5) $f(x) = -2\sqrt{\frac{1}{2}x-4} - 2$ shift down 2

D: $\{x \mid x \geq 8\}$

R: $\{y \mid y \leq -2\}$

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

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



x	y
-2	2
-1	1
0	0
1	1
2	2

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

1) $f(x) = |-x|$ r_y

2) $f(x) = 3|-x|$ v.s. by 3

3) $f(x) = 3|-2x|$ h.c. by $\frac{1}{2}$

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

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

D: IR

R: $\{y \mid y \geq 4\}$

Perform the indicated operation.

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

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

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

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

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

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 $(g \cdot f)(-4)$

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

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

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