Analyzing Parent Functions

(1) **Parent Graph Name:** Absolute Value

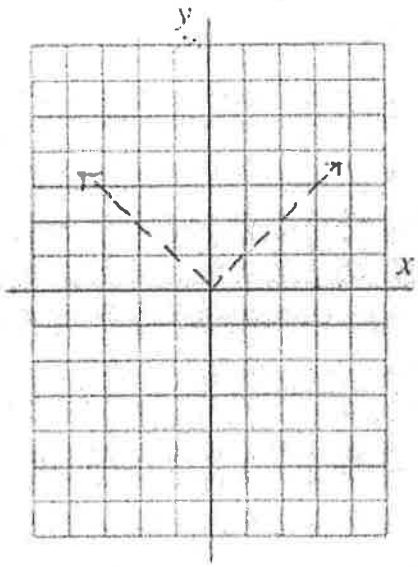
a) Parent Equation: $y = |x|$

b) Description of Transformation:
negative orientation with a vertical stretch of 3, translated 2 units to the right

c) Sketch Transformed Graph, $T(x)$
(Parent is already shown)

d) Write coordinates of the new locator point.

e) Write Transformation function, $T(x)$



_____

f) List domain of $T(x)$ _____ List range of $T(x)$ _____

g) List equation(s) of any asymptotes of $T(x)$ h) Describe any symmetry

(2) **Parent Graph Name:** Exponential Growth

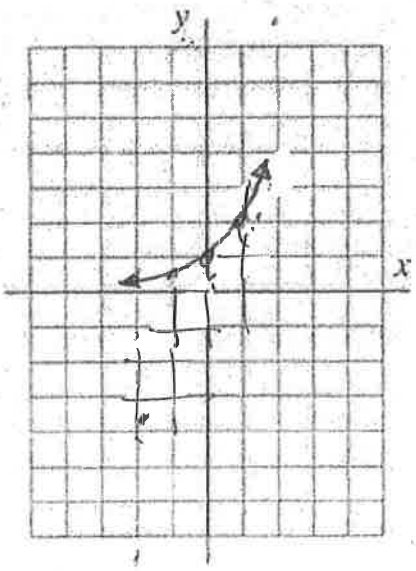
a) Parent Equation: $y = 2^x$

b) Description of Transformation:
Translate down 6 units

c) Sketch Transformed Graph, $T(x)$
(Parent is already shown)

d) Write coordinates of the new locator point. Use y-intercept.

e) Write Transformation function, $T(x)$



_____

f) List domain of $T(x)$ _____ List range of $T(x)$ _____

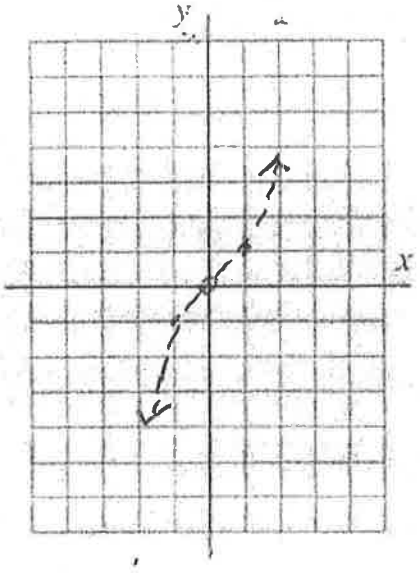
g) List equation(s) of any asymptotes of $T(x)$ h) Describe any symmetry

Analyze Transformations

Name _____

per.____

(3) **Parent Graph Name:** Cubic



a) Parent Equation:

b) Description of Transformation:

c) Sketch Transformed Graph, $T(x)$
(Parent is already shown)

d) Write coordinates of the new locator point.

e) Write Transformation function, $T(x)$

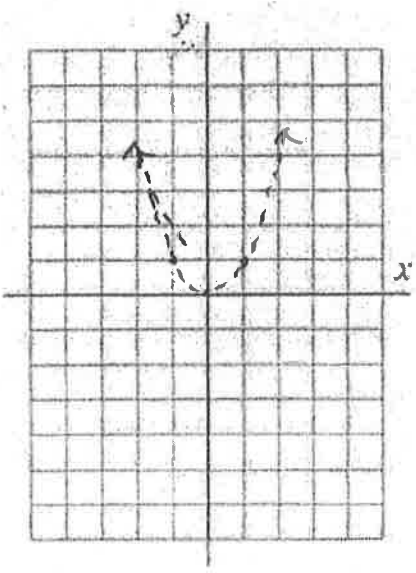
_____

f) List domain of $T(x)$ _____ List range of $T(x)$ _____

g) List equation(s) of any asymptotes of $T(x)$

h) Describe any symmetry

(4) **Parent Graph Name:** Parabola



h) Parent Equation:

i) Description of Transformation:

j) Sketch Transformed Graph, $T(x)$
(Parent is already shown)

k) Write coordinates of the new locator point.

l) Write Transformation function, $T(x)$

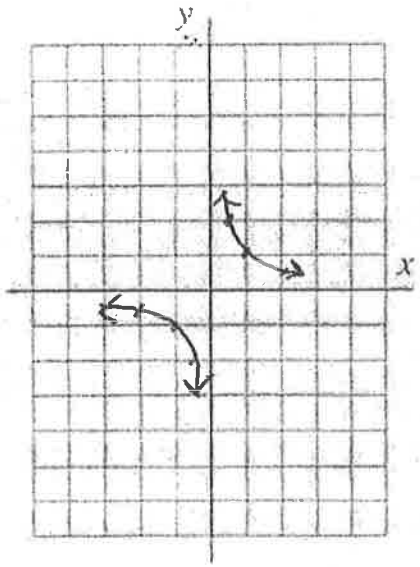
_____

m) List domain of $T(x)$ _____ List range of $T(x)$ _____

n) List equation(s) of any asymptotes of $T(x)$

h) Describe any symmetry

(5) **Parent Graph Name:** Hyperbola (reciprocal)



o) Parent Equation:

p) Description of Transformation:
Translate 3 units right and 5 units up

q) Sketch Transformed Graph, $T(x)$

r) Write coordinates of the new locator point.

s) Write Transformation function, $T(x)$

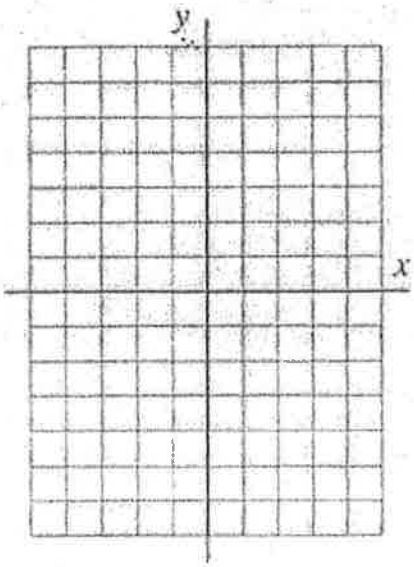
_____

t) List domain of $T(x)$ _____ List range of $T(x)$ _____

u) List equation(s) of any asymptotes of $T(x)$

h) Describe any symmetry

(6) **Parent Graph Name:**



v) Parent Equation: $y = \frac{-1}{x^2}$

w) Description of Transformation:

x) Sketch Transformed Graph, $T(x)$
(Parent is already shown)

y) Write coordinates of the new locator point.

z) Write Transformation function, $T(x)$

_____

aa) List domain of $T(x)$ _____ List range of $T(x)$ _____

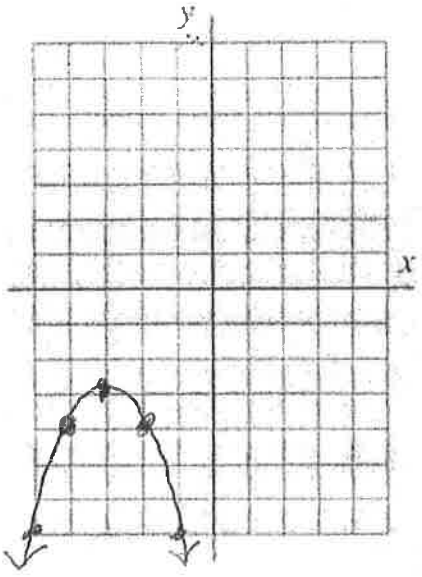
bb) List equation(s) of any asymptotes of $T(x)$

h) Describe any symmetry

Work Backwards starting from graph

Name _____ per.____

(7) **Parent Graph Name:**



a) Parent Equation:

b) Description of Transformation:

c) Sketch Transformed Graph, $T(x)$
(Parent is already shown)

d) Write coordinates of the new locator point.

e) Write Transformation function, $T(x)$

_____

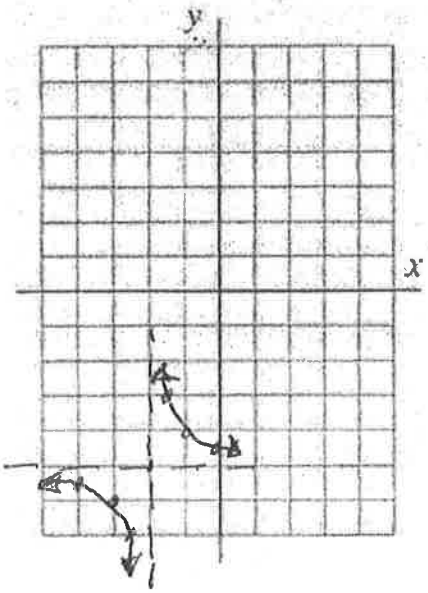
f) List domain of $T(x)$ _____ List range of $T(x)$ _____

g) List equation(s) of any asymptotes of $T(x)$

h) Describe any symmetry

Work backwards

(8) **Parent Graph Name:**



h) Parent Equation:

i) Description of Transformation:

j) Sketch Transformed Graph, $T(x)$
(Parent is already shown)

k) Write coordinates of the new locator point.

l) Write Transformation function, $T(x)$

_____

m) List domain of $T(x)$ _____ List range of $T(x)$ _____

n) List equation(s) of any asymptotes of $T(x)$

h) Describe any symmetry

PERSON PUZZLE – MULTIPLYING MONOMIALS

NAME _____ DATE _____

IRENA SENDLER

Serving Jewish children in German occupied territory during World War II, Irena Sendler (1910-2008) was a Roman-Catholic nurse and social worker. Widely recognized for a heart dedicated to serving others, Sendler once stated, "Every child saved with my help is the justification of my existence on this Earth, and not a title to glory."

DIRECTIONS: Simplify the following expressions. The word or phrase next to the equivalent expression will complete the statement correctly.

1. $(3x^2)(10x^4)$

Irena Sendler was born in ____, Poland in 1910.

a.	$13x^8$	Krakow
b.	$30x^8$	Lodz
c.	$30x^6$	Warsaw

2. $(a^5b^7)(a^3b^6)$

She studied _____ at Warsaw University.

a.	$a^{53}b^{76}$	education
b.	$a^{15}b^{42}$	medicine
c.	a^8b^{13}	Polish literature

3. $(5m^3n^7)(8mn^4)$

Sendler was suspended from the school as a result of her protest against the ____; a form of segregation in the seating of students.

a.	$40m^3n^{11}$	gender divide system
b.	$40m^4n^{11}$	ghetto-bench system
c.	$13m^5n^{10}$	nationalized row system

4. $(\frac{1}{2}x^5y^3)(4x^2y)(3x)$

During World War II, she served as head of the Jewish children's section of Zegota, an underground _____ organization.

a.	$2x^7y^3$	financial aid
b.	$6x^8y^4$	resistance
c.	$6x^7y^3$	social welfare

5. $(-3x^4)^2$

Undercover as a plumbing specialist, Sendler smuggled Jewish infants out of the ghettos in a _____.

a.	$-9x^8$	burlap sack
b.	$9x^6$	raincoat
c.	$9x^8$	tool box

6. $(\frac{1}{4}a^4b^5)^2$

With the assistance of other Zegota members, Sendler saved roughly _____ Jewish children during the Holocaust.

a.	$\frac{1}{4}a^8b^{10}$	25
b.	$16a^6b^7$	250
c.	$\frac{1}{16}a^8b^{10}$	2,500

7. $(5xy^3)^2(2x^5y^2)^3$

When she was discovered by the Nazis she was beaten and suffered _____.

a.	$200x^{17}y^{12}$	broken arms and legs
b.	$10x^{12}y^{10}$	internal bleeding
c.	$150x^{15}y^{14}$	loss of hearing

8. $(\frac{1}{2}m^3n^2)^2(8mn)(-2m^4n^6)$

In 1999, high school students in Kansas staged a play based on Sendler's life, titled _____, which was adapted to a Hollywood film.

a.	$4m^8n^6$	*Holocaust Heroine*
b.	$-4m^{11}n^{11}$	*Life in a Jar*
c.	$-8m^{14}n^{12}$	*Underwraps*