

$$y = x^2 - 9$$

$$(x) \quad (3)$$

$$y = (x + 3)(x - 3)$$

$$25n^2 - 1$$

$$(5n)^2 - (1)^2$$

$$(5n + 1)(5n - 1)$$

HW Tally →

Do the Warm Up

front side only ☺

also pick up the ch. 2 test info sheet.

Example: $9x^2 - 4 = (3x + 2)(3x - 2)$

1. $4x^2 - 1 =$

2. $x^2 - 9 =$

3. $36x^2 - 9 = 9(4x^2 - 1)$
 $9(x \quad)$

4. $100x^2 - 81 =$

5. $25x^2 - 4 =$

6. $81x^2 - 121 =$

$(x + 13)(x - 13)$ THE	$16(3x - 1)(3x - 1)$ SUM	$(x - 4)(x + 4)$ OFA	$(6x + 5)(6x - 5)$ PRO	$(25 - 4x)(25 + 4x)$ QUO	$(x + 1)(x - 1)$ DUC
$(9 + x)(9 - x)$ TOF	$9(2x - 1)(2x + 1)$ TIE	$(x + 7)(x - 7)$ THE	$(2x + 1)(2x - 1)$ NTA	$(9x + 1)(9x - 1)$ SUM	$(x + 2)(x - 2)$ AND
$(10 - x)(10 + x)$ WAS	$(5x + 3)(5x - 3)$ DIF	$(x - 5)(x + 5)$ HAS	$(8x + 1)(8x - 1)$ FER	$(11x - 7)(11x + 7)$ MAN	$(x - 6)(x + 6)$ NER
$(x + 18)(x - 18)$ ENC	$(10x - 9)(10x + 9)$ THA	$(x - 3)(x + 3)$ TIS	$(5x - 2)(5x + 2)$ MYP	$(7x + 11)(7x - 11)$ EOF	$(x + 8)(x - 8)$ THE
$(x + 15)(x - 15)$ SQU	$(9x - 11)(9x + 11)$ ROB	$(x + 9)(x - 9)$ ARE	$(3x + 2)(3x - 2)$ ROO	$(7x - 4)(7x + 4)$ LEM	$(x + 9)(x - 9)$ TS.

15. The factored form of the difference of the two squares is

7. $x^2 - 16 =$

8. $144x^2 - 16 =$

9. $x^2 - 25 =$

10. $625 - 16x^2 =$

11. $100 - x^2 =$

12. $x^2 - 36 =$

13. $121x^2 - 49 = (11x+7)(11x-7)$
 $(11x)^2 - (7)^2$

14. $49x^2 - 16 =$

Consolidate understanding
of parent graphs and
the details of their
transformations.

Aim

† learn characteristics
of each parent
function

Class Brainstorm

List of all of the families of functions that you have learned about so far in your study of Algebra

brainstorm

parabolas

exponential

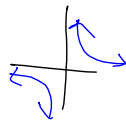
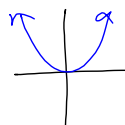
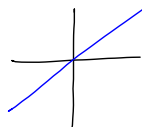
cubic

absolute value

Square root

linear

hyperbola (reciprocal)



lines

parabolas

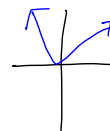
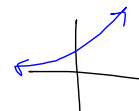
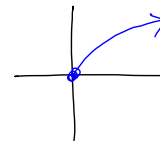
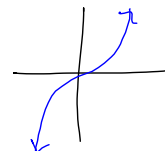
hyperbolas

cubics

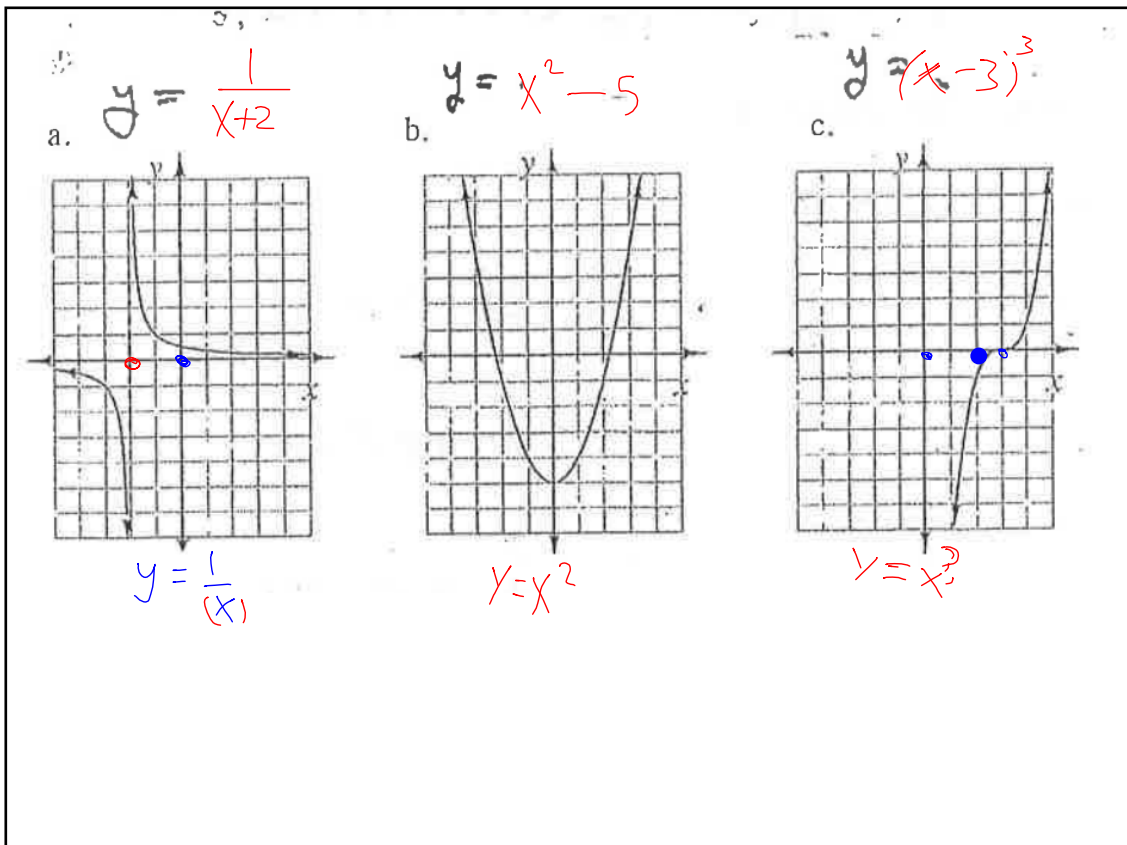
square root

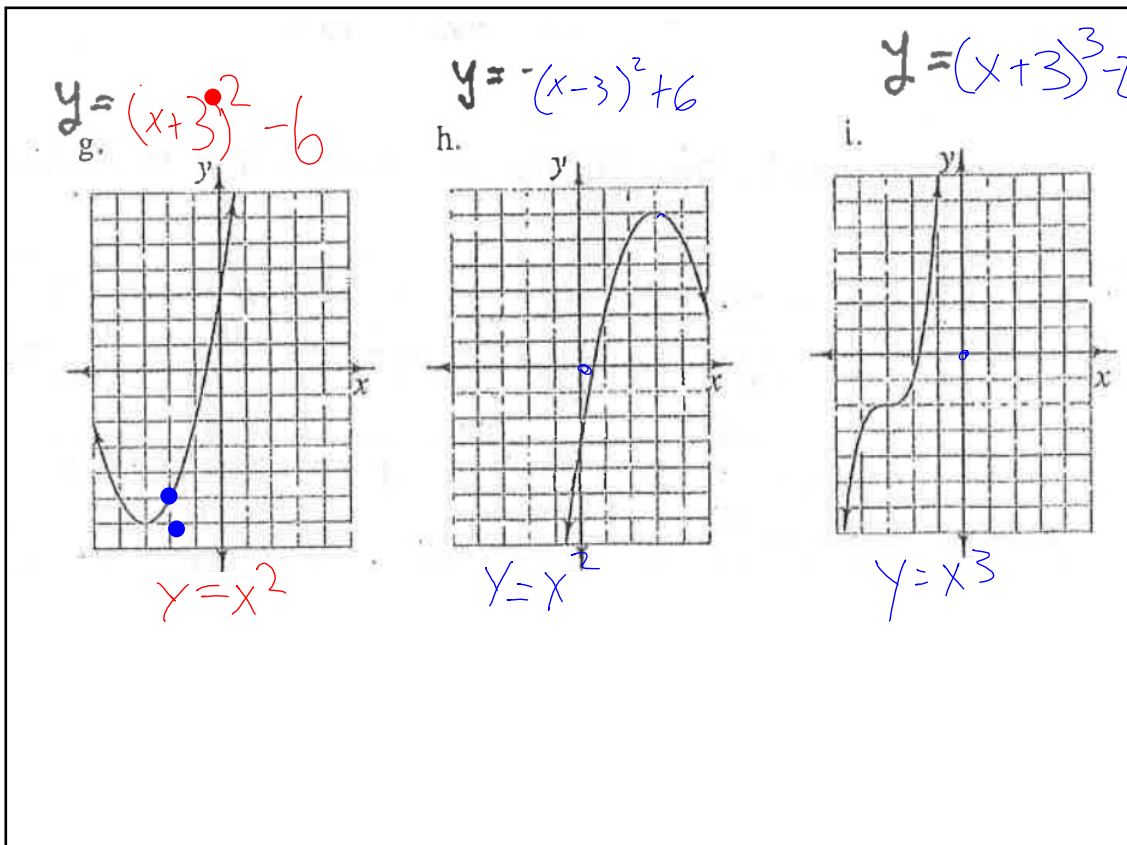
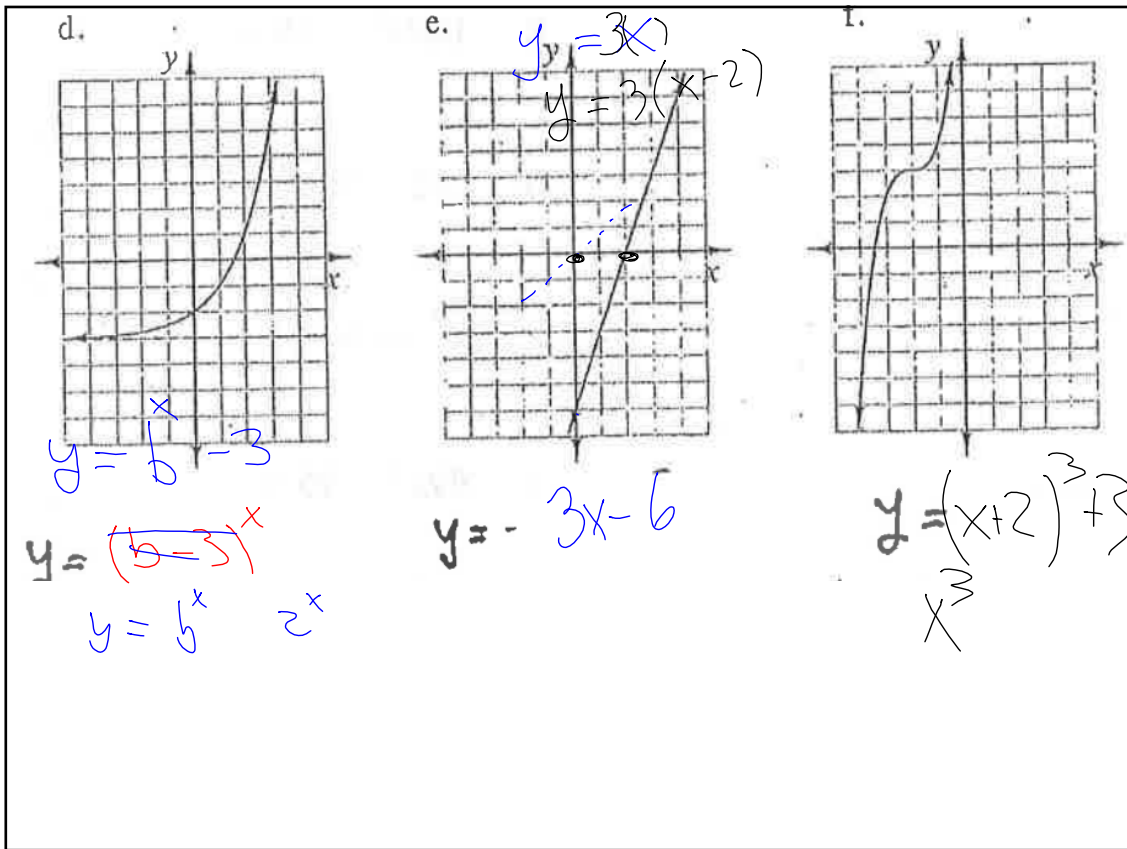
exponentials

absolute value



Function Familiarity

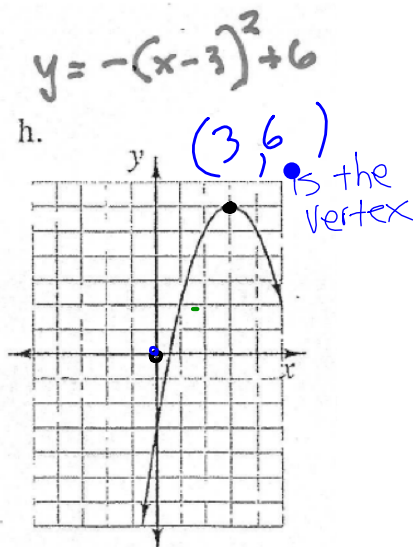




let's go back and look at the

Significance of

(h, k)



Parabola

$$y = x^2$$

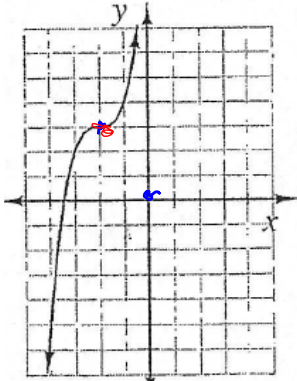
$$y = a(x-h)^2 + k$$

The locator point (h, k) is at the vertex of a parabola

(h, k) $(-2, 3)$ is the inflection point

$$y = (x+2)^3 + 3$$

f.



Cubic

$$y = x^3$$

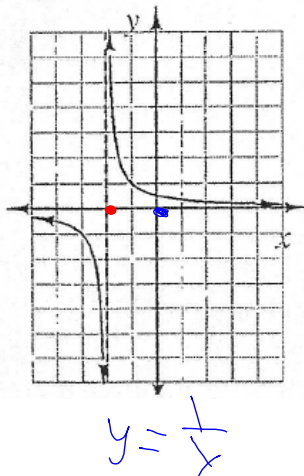
$$y = a(x-h)^3 + k$$

The locator point (h, k) is at the inflection point.

$(-2, 0)$ is the locator point

$$y = \frac{1}{x+2}$$

a.



Hyperbola

$$y = \frac{1}{x}$$

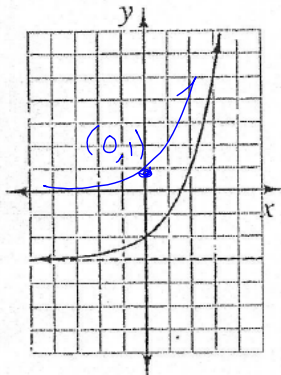
$$y = \frac{a}{x-h} + k$$

The locator point (h, k) is in between the two branches.

$(0, -2)$ new y-int.

$$y = 2^{x-3}$$

d.



Exponential

$$y = 2^x$$

$$y = a \cdot 2^{x-h} + k$$

The locator point (h, k)
is ?????

$$y = |x|$$

$$y = a|x-h| + k$$

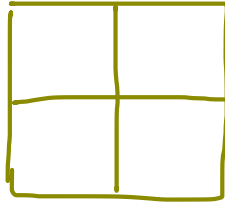
BB

Two Tough Problems

① Complete the square to convert
 $y = 3x^2 + 2x + 10$ to graphing form.

$3/4$

=



+ 10

② Solve the equation

$$2\left(1 - \frac{x}{3}\right) = \frac{x}{7} + 3$$

② Solve the equation

$$2\left(1 - \frac{x}{3}\right) = \frac{x}{7} + 3$$

2 - 107-109, 110a, 111, 113, 119

The Chapter 2 test is Friday

pdf