

Name: ANSWER KEY

Period: 1 of 2



DTMD: Four Questions - Independent Practice (In Class)

Given the functional form: $y = a(x - h)^n + k$

What might changing "a" do?

COMBRES OR STRETCHES FUNCTION
FLIPS FUNCTION (ABOUT "x" AXIS - REFLECTION)

What might changing "n" do?

CHANGES END BEHAVIORS
SAME IF EVEN } OPPOSITE IF ODD

What might changing "h" do?

SLIDES FUNCTION LEFT & RIGHT
(DOES NOT CHANGE SHAPE)

What might changing "k" do?

SLIDES FUNCTION UP & DOWN
(DOES NOT CHANGE SHAPE)

Create a Reference Key for yourself...

Four Questions:

1) Is the function even or odd?

implication:

U n } —

2) Is the function positive or negative?

implication:

U ↗ } n ↘

3) How many curves (max)?

implication:

EXPONENT - 1 = #

4) Where is (h, k) = (?, ?)

Implication:

QPP ↗ AS IS
QUADRANT OF "VERTEX"
OR CRITICAL POINT

Where do I look for the ANSWERS...

① ②

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

④* ⑤

DTMD: Four Questions - Independent Practice (In Class)

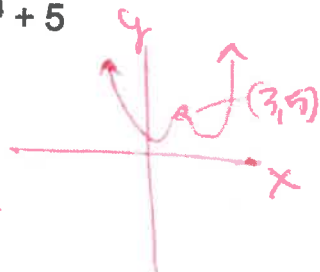
Independent Practice:



SKETCHING FUNCTIONS:

$y_1 = 2(x - 3)^4 + 5$

- 1 Even U
- 2 pos U
- 3 4-1=3
- 4 (3, 5) Q I



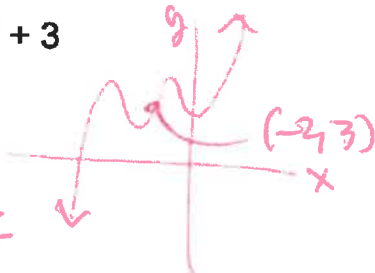
$q(x) = -(x + 4)^3 - 2$

- 1 odd ↔
- 2 neg ↓
- 3 3-1=2
- 4 (-4, -2) Q III



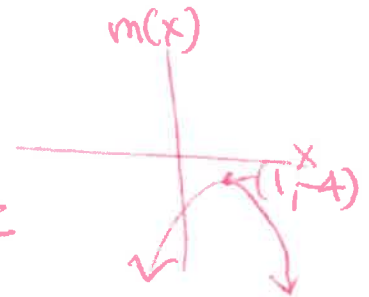
$y_2 = (x + 2)^5 + 3$

- 1 odd ↔
- 2 pos ↑
- 3 5-1=4
- 4 (-2, 3) Q II



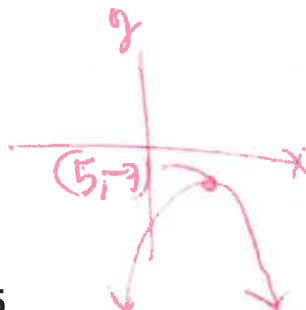
$m(x) = -(x - 1)^2 - 4$

- 1 Even U
- 2 neg ↓
- 3 2-1=1
- 4 (1, -4) Q IV



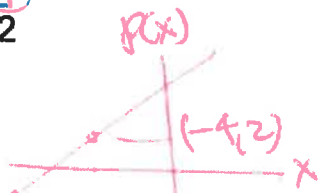
$y_3 = (x - 5)^2 - 3$

- 1 Even U
- 2 pos U
- 3 2-1=1
- 4 (5, -3) Q IV



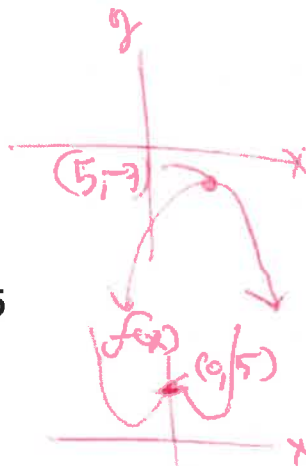
$p(x) = -(x + 4)^1 + 2$

- 1 odd —
- 2 neg ↓
- 3 1-1=0 *
- 4 (-4, 2) Q II



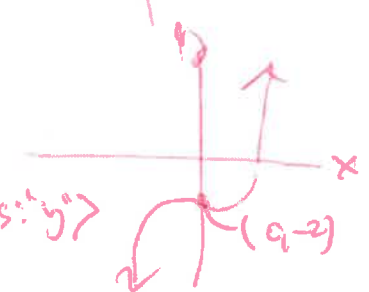
$f(x) = 3(x - 0)^4 + 5$

- 1 Even U
- 2 pos U
- 3 4-1=3
- 4 (0, 5) (ON AXIS: "y")



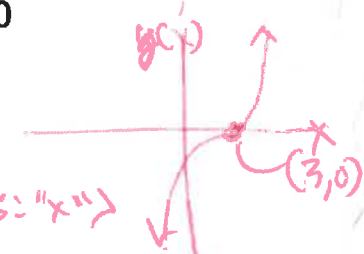
$y_4 = 3x^3 - 2$

- 1 odd —
- 2 pos ↑
- 3 3-1=2
- 4 (0, -2) (ON AXIS: "y")



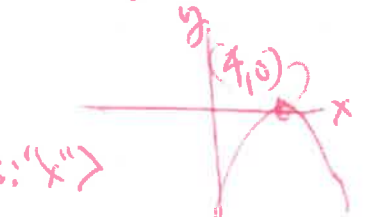
$y(x) = 2(x - 3)^3 + 0$

- 1 odd —
- 2 pos ↑
- 3 3-1=2
- 4 (3, 0) (ON AXIS: "x")



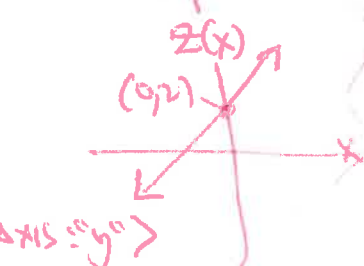
$y_5 = -(x + 4)^2$

- 1 Even U
- 2 neg ↓
- 3 2-1=1
- 4 (4, 0) (ON AXIS: "x")



$z(x) = (x - 0)^1 + 2$

- 1 odd —
- 2 pos ↑
- 3 1-1=0 *
- 4 (0, 2) (ON AXIS: "y")



$y_6 = -(x + 2)^1 - 0$

- 1 odd —
- 2 neg ↓
- 3 1-1=0 *
- 4 (2, 0)

