MAC 1105 *Transformations and Symmetry* Instr: Jamieson

Rockswold 3.4 Last updated 2/6/2012

Transformations and Symmetry

1. "Library of Functions":
Match

____ $y = mx + b$

____ $y = \sqrt{x}$

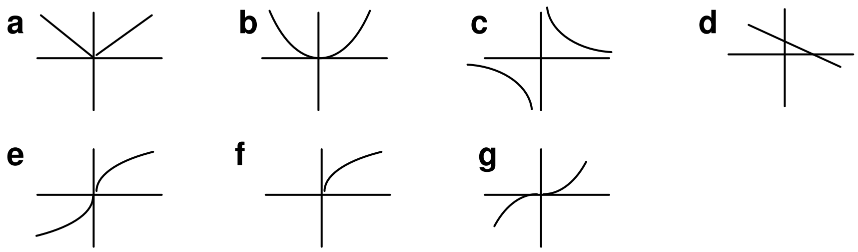
____ $y = x^3$

____ $y = \dfrac{1}{x}$

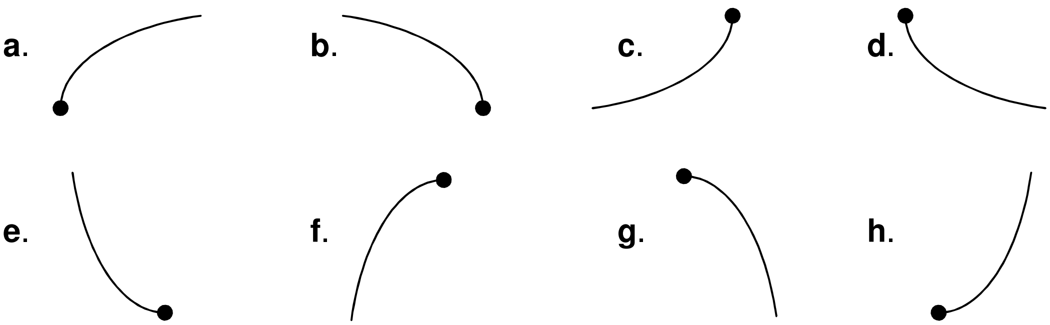
____ $y = \sqrt[3]{x}$

____ $y = x^2$

____ $y = |x|$



2. Give the exact endpoint P = (_______,_______). and choose the correct orientation and concavity for the graph of each function:



i. ______ $y = 100 - 2\sqrt{-(x+9)}$

ii. ______ $y = 1000 + \sqrt{-1500(x+1200)}$

iii. ______ $y = 100 + 300\sqrt{1200(x-1500)}$

iv. ______ $y = 1800\sqrt{-1500(x-1200)} - 20$

v. ______ $y = -12000\sqrt{-500(x-1500)} - 17000$

vi. ______ $y = 120 - 1500\sqrt{-200(x+2500)}$

vii. ______ $y = 1000 + \sqrt{-1500(x-50)}$

viii. ______ $y = 12\sqrt{-15(x+5)} - 15000$

ix. ______ $y = 10000\sqrt{x+2500} - 15$

3. Sketch the graph of each function in #**2.** Indicate the sign of the y-intercept, the quadrant of the endpoint, the concavity of the function and its direction from the endpoint.

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Answers:

1. dfgceba

2. problem	Endpoint	orientation
i.	(-9,100)	c
ii.	(-1200,1000)	b
iii.	(1500,100)	a
iv.	(1200,-20)	b
v.	(1500,-17000)	c
vi.	(-2500,120)	c
vii.	(50,1000)	b
viii.	(-5,-15000)	b
ix.	(-2500,-15)	a

3.