Math 3200 Test Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Chapter 7 /32

Formula:

Part I: Multiple Choice: Shade the letter of the correct answer on the scantron form provided. (10 Marks)

1. What is the mapping rule that transforms to ?

A) B)

C) D)

2. Write as a single power:

A) B) C) D)

3. A house is purchased for $240 000 and appreciates by 4% annually. Write an exponential function that can be used to determine the value, V of the house in t years.

A) B)

C) D)

4. Solve for x:

A) B) C) D)

5. What is the range of the function ?

A) B)

C) D)

6. Describe the transformation of that produces

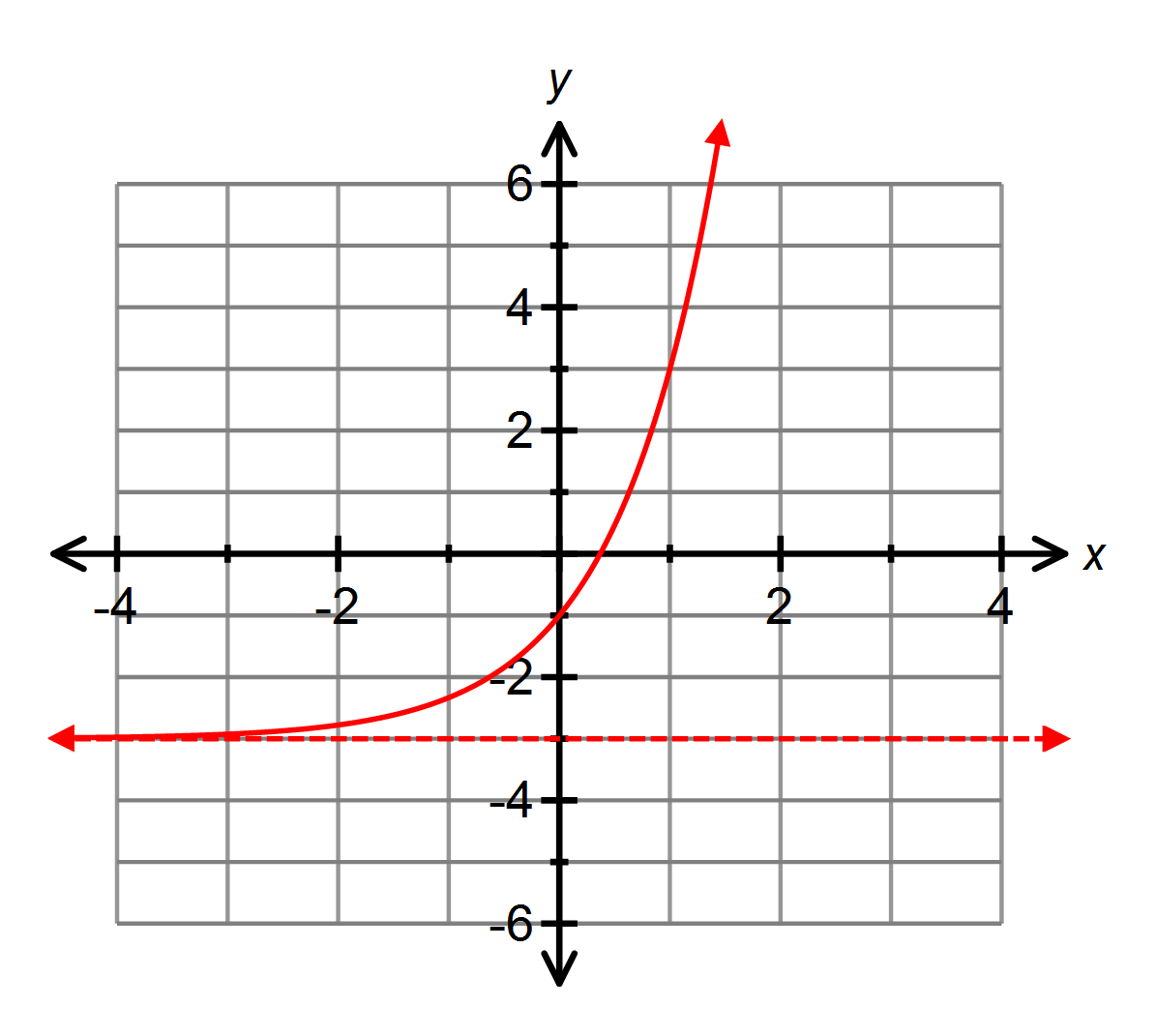
A) vertical translation 1 unit down, horizontal stretch , horizontal translation 2 units left

B) vertical translation 1 unit down, horizontal stretch 4, horizontal translation 2 units left

C) vertical translation 1 unit up, horizontal stretch , horizontal translation 2 units left

D) vertical translation 1 unit up, horizontal stretch 4, horizontal translation 2 units left

7. Which equation best represents the graph below?



A)

B)

C)

D)

8. What is the equation of the horizontal asymptote of

A) B) C) D)

9. A strain of bacteria doubles every 4 hours. If 20 bacteria are present initially, write an equation to represent the number of bacteria present at time t.

A) B)

C) D)

10. Which best represents the transformation of by the mapping rule ?

A) B)

C) D)

Part II: Show all workings in the space provided. (22 Marks)

1. A radioactive substance has a half-life of 23 years. If the function models the decay of the substance and 384 grams are present initially, algebraically determine when 12 grams remain. (4 Mks)

2. Sketch the graph of:

State the mapping rule, tables of values, domain, range and equation of the horizontal asymptote. (6 Mks)



3. Solve for x algebraically: (9 Mks)

a) b) c)

4. $4000 is invested in an account that earns 6% interest per year compounded semi-annually. Write an equation to model this situation and algebraically determine how much money will be in the account after 6 years. (3 Mks)