Comparing Linear and Exponential Functions

Name_____ Period:_____ Date:_____

Directions: Use the information given to solve each problem.

1. James deposits money into two different savings accounts. The table shows the balances in each account in 10-month intervals of time.

Month	Account A Balance ($)	Account B Balance ($)
0	50.00	50.00
10	55.00	60.00
20	60.00	72.00
30	65.00	86.40
40	70.00	103.65

Part A

Which function best models each account? Select the box that matches each account with the correct function.

	Linear Function	Exponential Function
Account A	☐	☐
Account B	☐	☐

Part B

Based on the account balance information, which statement is true?

A. Account A and Account B both increase by equal factors over the same amount of time.

B. Account A and Account B both increase by equal differences over the same amount of time.

C. Account A increases by equal differences and Account B increases by equal factors over the same amount of time.

D. Account A increases by equal factors and Account B increases by equal differences over the same amount of time.

2. Sarah deposits money into two different savings accounts. The table shows the balances in each account in 12-month intervals of time.

Month	Account A Balance ($)	Account B Balance ($)
0	100.00	100.00
12	105.00	120.00
24	110.00	144.00
36	115.00	172.80
48	120.00	207.36

Part A

Which function best models each account? Select the box that matches each account with the correct function.

	Linear Function	Exponential Function
Account A	☐	☐
Account B	☐	☐

Part B

Based on the account balance information, which statement is true?

A. Account A and Account B both increase by equal factors over the same amount of time.

B. Account A and Account B both increase by equal differences over the same amount of time.

C. Account A increases by equal differences and Account B increases by equal factors over the same amount of time.

D. Account A increases by equal factors and Account B increases by equal differences over the same amount of time.

3. Ethan deposits money into two different savings accounts. The table shows the balances in each account in 20-month intervals of time.

Month	Account A Balance ($)	Account B Balance ($)
0	150.00	150.00
20	195.00	155.00
40	240.00	160.00
60	288.80	165.00
80	345.60	170.00

Part A

Which function best models each account? Select the box that matches each account with the correct function.

	Linear Function	Exponential Function
Account A	☐	☐
Account B	☐	☐

Part B

Based on the account balance information, which statement is true?

A. Account A and Account B both increase by equal factors over the same amount of time.

B. Account A and Account B both increase by equal differences over the same amount of time.

C. Account A increases by equal differences and Account B increases by equal factors over the same amount of time.

D. Account A increases by equal factors and Account B increases by equal differences over the same amount of time.

Name_____ Period:_____ Date:_____

Answer Key

Directions: Use the information given to solve each problem.

1. James deposits money into two different savings accounts. The table shows the balances in each account in 10-month intervals of time.

Month	Account A Balance ($)	Account B Balance ($)
0	50.00	50.00
10	55.00	60.00
20	60.00	72.00
30	65.00	86.40
40	70.00	103.65

Part A

Which function best models each account? Select the box that matches each account with the correct function.

	Linear Function	Exponential Function
Account A	⬤	☐
Account B	☐	⬤

Part B

Based on the account balance information, which statement is true?

A. Account A and Account B both increase by equal factors over the same amount of time.

B. Account A and Account B both increase by equal differences over the same amount of time.

C. Account A increases by equal differences and Account B increases by equal factors over the same amount of time.

D. Account A increases by equal factors and Account B increases by equal differences over the same amount of time.

C

2. Sarah deposits money into two different savings accounts. The table shows the balances in each account in 12-month intervals of time.

Month	Account A Balance ($)	Account B Balance ($)
0	100.00	100.00
12	105.00	120.00
24	110.00	144.00
36	115.00	172.80
48	120.00	207.36

Part A

Which function best models each account? Select the box that matches each account with the correct function.

	Linear Function	Exponential Function
Account A	●	☐
Account B	☐	●

Part B

Based on the account balance information, which statement is true?

A. Account A and Account B both increase by equal factors over the same amount of time.

B. Account A and Account B both increase by equal differences over the same amount of time.

C. Account A increases by equal differences and Account B increases by equal factors over the same amount of time.

D. Account A increases by equal factors and Account B increases by equal differences over the same amount of time.

C

3. Ethan deposits money into two different savings accounts. The table shows the balances in each account in 20-month intervals of time.

Month	Account A Balance ($)	Account B Balance ($)
0	150.00	150.00
20	195.00	155.00
40	240.00	160.00
60	288.80	165.00
80	345.60	170.00

Part A

Which function best models each account? Select the box that matches each account with the correct function.

	Linear Function	Exponential Function
Account A	☐	🔴
Account B	🔴	☐

Part B

Based on the account balance information, which statement is true?

A. Account A and Account B both increase by equal factors over the same amount of time.

B. Account A and Account B both increase by equal differences over the same amount of time.

C. Account A increases by equal differences and Account B increases by equal factors over the same amount of time.

D. Account A increases by equal factors and Account B increases by equal differences over the same amount of time.

D