Math 6 Lesson 6 Backwards Problem Solving

Name:

Date:

|  |
| --- |
| **Lesson 6 - Solving Problems Using Patterns** |

|  |
| --- |
|  |
|  |  1.  | Miguel has $655 in his bank account. Each week for 20 weeks, he takes out the same amount.  The table shows how much he has left at the end of each week.

|  |  |
| --- | --- |
| **Week** | **Amount in bank account ($)** |
| 0 | 655 |
| 1 | 640 |
| 2 | 625 |
| 3 | 610 |
|  |  |

How much does Miguel take out each week?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | $5 | b. | $20 | c. | $15 | d. | $25 |

  |
|  |  2.  | Refer to question 1. How much will Miguel have in his bank account at the end of 20 weeks?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | $355 | b. | $475 | c. | $510 | d. | $285 |

  |
|  |  3.  | A container has 245 mL of liquid. Each day the same amount of liquid is added to it. The table shows how much liquid is in the container at the end of each day.

|  |  |
| --- | --- |
| **Day** | **Amount of liquid (mL)** |
| 0 | 245 |
| 1 | 290 |
| 2 | 335 |
| 3 | 380 |
|  |  |

How much liquid is being added each day?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 75 mL | b. | 55 mL | c. | 30 mL | d. | 45 mL |

  |
|  |  4.  | Refer to question 3. How much liquid will be in the container at the end of 30 days?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 2160 mL | b. | 1595 mL | c. | 1845 mL | d. | 1620 mL |

  |
|  |  5.  | Colin and Anna are 36 km apart and travelling toward each other. Colin is travelling north and can walk 5 km each hour. Anna is travelling south and can jog 7 km each hour. Complete this table of values to figure out the total distance Anna and Colin travelled.

|  |
| --- |
| **Distance Travelled Each Hour** |
| **Time (h)** | **Colin’s distance (km)** | **Anna’s distance (km)** | **Total distance (km)** |
| 1 |   |   |   |
| 2 |   |   |   |
| 3 |   |   |   |
| 4 |   |   |   |
|  |  |  |  |

  |
|  |  6.  | Refer to question 5. How long will it take until Colin and Anna meet each other?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 1 h | b. | 3 h | c. | 4 h | d. | 2 h |

  |
|  |  7.  | Keisha has $8.20 in nickels in her coin jar and Paul has $7.00 in dimes in his coin jar. Each day, Keisha removes 1 nickel and Paul adds 1 dime. Complete the following table to show the amount of money each has.

|  |  |  |
| --- | --- | --- |
| **Day** | **Keisha’s amount ($)** | **Paul’s amount (4)** |
| 0 | 8.20 | 7.00 |
| 1 |   |   |
| 2 |   |   |
| 3 |   |   |
| 4 |   |   |
|  |  |  |

  |
|  |  8.  | Refer to question 7. How many days will it be until Keisha and Paul have the same amount of money?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 8 | b. | 6 | c. | 10 | d. | 12 |

  |
|  |  9.  | For a birthday party, a rock-climbing club charges $120 plus a certain amount for each friend invited. The following table shows the total cost for the party.

|  |  |
| --- | --- |
| **Number of friends** | **Total cost ($)** |
| 1 | 135 |
| 2 | 150 |
| 3 | 165 |
| 4 | 180 |
|  |  |

What is the charge for each friend?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | $5 | b. | $30 | c. | $25 | d. | $15 |

  |
|  |  10.  | Refer to question 9. How many friends were invited if the total cost of the party is $270.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 8 | b. | 10 | c. | 12 | d. | 15 |

  |

|  |
| --- |
|  |
|  |