Name: $\qquad$

## Assignment: Midterm Multiple Choice Analysis

Instructions: For each incorrect answer, identify the error that would lead to someone picking this correct answer. Use specific explanations. Writing "they mistakenly put a negative sign" is not specific enough. Writing "they thought that $\mathbf{1 4 - 1 8}$ was +4 instead of -4 " or "they divided by $\mathbf{2}$ when they should have divided by $\mathbf{- 2}$ " is specific enough. If your explanation requires you to put some work down to show what you mean, you should do that too.

1) Write 4.04 as a fraction in lowest terms. (Correct answer: D)
A. $4 \frac{2}{5}$
B. $4 \frac{4}{99}$
C. $4 \frac{1}{20}$
D. $4 \frac{1}{25}$

| Error that leads to A | Error that leads to B | Error that leads to C |
| :--- | :--- | :--- |

22) Choose the table that is linear. (Correct answer: B)
A.

| $\mathbf{x}$ | 1 | 2 | 4 | 7 | 11 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{y}$ | 5 | 10 | 15 | 20 | 25 |

B.

| $\mathbf{x}$ | 2 | 4 | 6 | 8 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{y}$ | 11 | 14 | 17 | 20 | 23 |

C.

| $\mathbf{x}$ | 1 | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{y}$ | 20 | 16 | 11 | 5 | 1 |

D.

| $\mathbf{x}$ | 1 | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{y}$ | 1 | 3 | 9 | 27 | 81 |

$\square$
Error that leads to C

Error that leads to D
24) Find the slope of the line on the graph. (Correct answer: D)
A. $\frac{1}{2}$
B. $-\frac{1}{2}$
C. 2
D. -2

32) Which person is making money the fastest? Which is making money the slowest? In each scenario, $\mathbf{x}$ is the number of weeks and $\mathbf{y}$ is the amount of money they have. (Correct answer: A)
Gary
$y=8 x+4$

## Harry

| $\mathbf{x}$ | 1 | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{y}$ | 50 | 56 | 62 | 68 | 74 |

A. Harry is the slowest, Mary is the fastest
C. Mary is the slowest, Gary is the fastest
B. Gary is the slowest, Mary is the fastest
D. Mary is the slowest, Harry is the fastest.

Mary


| Error that leads to B | Error that leads to C | Error that leads to D |
| :--- | :--- | :--- |

34) Solve the equation: $-2 x+18=4 \quad$ (Correct answer: B )
A. $x=-7$
B. $x=7$
C. $x=-11$
D. $x=11$

| Error that leads to A | Error that leads to C | Error that leads to D |
| :--- | :--- | :--- |

35) Solve the equation: $\frac{1}{4} x+16=20 \quad$ (Correct answer: C)
A. $x=1$
B. $x=4$
C. $x=16$
D. $x=64$

| Error that leads to A | Error that leads to B | Error that leads to D |
| :--- | :--- | :--- |
|  |  |  |

40) Fill in the blanks to create an equation that has infinite solutions: $-2(x+3)+5 x=$ $\qquad$ $+$ $\qquad$ (Correct answer: B)
A. $1^{\text {st }}$ blank: $3 x, 2^{\text {nd }}$ blank: 3
B. $1^{\text {st }}$ blank: $3 x, 2^{\text {nd }}$ blank: -6
C. $1^{\text {st }}$ blank: $7 x, 2^{\text {nd }}$ blank: 3
D. $1^{\text {st }}$ blank: $7 x, 2^{\text {nd }}$ blank: -6

| Error that leads to A | Error that leads to C | Error that leads to D |
| :--- | :--- | :--- |

50) Which of these situations matches this graph? Note: the y-axis is speed! (Correct answer: A)
A. You are running at a quick pace. After a while, you get tired, so you slow down and eventually stop.
B. You are at school, a long distance from home. When school is over, you walk home.
C. You are walking on a path. This path leads to a steep hill. You weren't looking where you were going, so you trip and fall quickly all the way to the bottom.


Time
D. You are taking a midterm in your math class. You smile, because you have just reached the end of the test.

| Error that leads to B | Error that leads to C | Error that leads to D |
| :--- | :--- | :--- |

Choose another problem from the midterm that you got incorrect (unless they are all already accounted for above) and explain the errors that would lead to each incorrect answer, including the one you chose.

Problem: $\qquad$

| Error that leads to _-_ Error that leads to | Error that leads to |
| :--- | :--- | :--- |

