

Interpreting Functions and Parameters

Algebra 1 • Section 11.4

Name: _____

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Quick Review and Helpful Hints

Exponential models multiply by a constant factor over equal input intervals. Compare the initial value, multiplier, and long-term behavior before deciding what the model means.

Q Example: Evaluate $100(1.05)^2$.

Work: Square the growth factor: $1.05^2 = 1.1025$. Then multiply: $100(1.1025) = 110.25$.

Answer: 110.25

Practice Problems

Solve each problem. Show enough work that another student could follow your thinking.

1. In $y = mx + b$, what does m represent?

6. In $C = 35 + 12x$, what does 35 represent?

2. In $y = mx + b$, what does b represent?

7. In $C = 35 + 12x$, what does 12 represent?

3. In $A = 500(1.06)^t$, what is 500?

8. In $P = -2(x - 4)^2 + 30$, what is the vertex?

4. In $A = 500(1.06)^t$, what percent change?

9. In $y = a(b)^x$, what does $b > 1$ mean?

5. In $h = -16t^2 + 48t + 6$, what does 6 represent?

10. In $y = a(b)^x$, what does $0 < b < 1$ mean?

Word Problems

11. A phone bill is $B = 22 + 0.10t$. Interpret 0.10.

12. A medicine model is $M = 80(0.75)^h$. Interpret 0.75.



Answer Keys

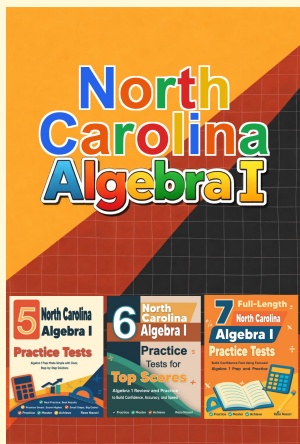
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|----------------------------------|---------------------------|
| 1. Slope/rate of change | 7. Cost per unit |
| 2. Initial value/ y -intercept | 8. $(4, 30)$ |
| 3. Initial amount | 9. Growth |
| 4. 6% growth | 10. Decay |
| 5. Initial height | 11. 10 cents per text |
| 6. Fixed/startup cost | 12. 75% remains each hour |

Step-by-Step Explanations

- The slope tells how much y changes when x increases by 1.
- When $x = 0$, the output is b .
- At $t = 0$, the exponential factor is 1, so the value is 500.
- The factor 1.06 means $1 + 0.06$.
- At $t = 0$, the height is 6.
- It is the cost before any x units are added.
- It is the rate of change per 1 unit of x .
- Vertex form gives $(h, k) = (4, 30)$.
- A base greater than 1 multiplies outputs upward as x increases.
- A base between 0 and 1 shrinks outputs as x increases.
- The coefficient of t is the cost for each additional text.
- The amount is multiplied by 0.75 each hour, meaning 25% decays.



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