

Writing Equations from Scenarios

- 1.) Antonio is running home from school. He has already been running for 5 minutes and is running 6 minutes per mile. Write an equation that shows this scenario.

- 2.) Jordan is reading a book. He has already read 78 pages and reads 3 pages/minute. Write a function that shows this scenario in terms of t (HINT: $f(t) = mx + b$)

- 3.) Jasmine is decorating cookies for Christmas. She has already decorated 15 cookies and can decorate 5 more cookies every minute. Write a function that shows this scenario.

- 4.) Kevin is completing a word search for science class. He needs to find no less than 20 of the words on the list. He has already found 4 and finds 2 more per minute. Write an inequality that shows this scenario.

- 5.) Ralph's Mom will give awesome presents if he gets an A in math. He already has completed 10 assignments and he completes 2 more each hour. Write an equation that shows this scenario.

- 6.) Aniya knows that after she gets 20 points she has to serve a detention. She already has 7 points and she has been earning 3 points per day. Write an equation for this scenario.

- 7.) Whitney loves texting, she uses 40 texts a day.

| | Independent Quantity | Dependent Quantity |
|--------------|-----------------------------|---------------------------|
| Units | | |
| | 1 | |
| | 2 | |
| | 5 | |
| | 10 | |
| | 20 | |

a: What is the unit rate of change

b. How many texts does Whitney send after 15 days?

c: Write a Function that represents Whitney's texting

d: Whitney has a limit of 1,000 texts per month. How many days will it take before Aniyah hits her limit?

8.) The Cody football team needs to raise \$7500 to get new helmets. The boosters donate \$2000, and they raise the rest of the money selling OPFI hoodies for \$50 each.

| Units | Independent Quantity | Dependent Quantity |
|-------|----------------------|--------------------|
| | | |
| | 1 | |
| | 10 | |
| | 25 | |
| | 50 | |
| | 75 | |

a: what is the unit rate of change?

b: How many hoodies do they need to sell to raise the money for their helmets?

c: How much money will the football team make after selling 100 hoodies?

d: Write the function that represents the money they raised

9.) Avery is in a 3 point contest. He scored 21 points last round, He makes an additional 12 points a minute.

| Units | Independent Quantity | Dependent Quantity |
|-------|----------------------|--------------------|
| | | |
| | 0 | |
| | 1 | |
| | 2 | |
| | 3 | |
| | 5 | |

a: Write the function that represents the number of points Avery makes:

b: Avery needs 100 points to win the contest. Suppose there are 7 minutes left. Will Avery win?

10.) Montel currently has a 85% in math class, for every missing assignment he turns in, his grade goes up 2%.

| Units | Independent Quantity | Dependent Quantity |
|-------|----------------------|--------------------|
| | | |
| | 0 | |
| | 1 | |
| | 2 | |
| | 3 | |
| | 5 | |

a: Write the function that represents Montel's grade

b: What will be Montel's grade after turning in 4 assignments?

c: If Montel wants to earn an A (94% or higher) how many additional assignments does he need to turn in?

d: Write an inequality that represents the number of assignments Montel needs to turn in to earn an A.