

# The Covenant

Cortana: "Alright Chief, I need you clear out the area. Once it's cleared, open the doors for the marines and move out."

Marine: "There's a scarab! No, two!"

Cortana: "Chief, the connection is full of static. There are about 7 grunts, 4 jackals and 5 brutes in one scarab. Figure out how many you need to clear before you can take down the scarabs." \*cuts out\*

Try it Yourself Strategies:



- Multiply each colored number by two, then add them all together.
  - $(7 * 2) + (4 * 2) + (5 * 2) = \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$
- Add all the colored numbers together first, then multiply by two.
  - $2 * (7 + 4 + 5) = 2 * (\underline{\quad}) = \underline{\quad}$
- Draw a picture and count to make sure! Take your time.

Adam Green

Adding, Multiplying, Dividing, Word Problems

3/25/20

Which strategy do you like better? Can you come up with a better one? Is it easier to add some numbers more than others? Is it easier to draw and count them?

Patterns:

- $(7 * 2) + (4 * 2) + (5 * 2)$  has a 2 in each parenthesis. You can **take that out** to simplify the equation as:  $2 * (7 + 4 + 5)$ .
- How many combinations of numbers can you make? Which is the easiest and why?
  - Example:
$$2 * (5 + 4) = 18$$
$$2 * 7 = 14$$
$$14 + 18 = 32$$
  - $$2 * (5 + 7) = 26$$
$$2 * 4 = 8$$
$$26 + 8 = 32$$
  - Can you cycle through all the combinations? Which was the easiest combination? Why?

# That's the Spirit

Sargent: "Lieutenant Green, we are under attack. There are 4 groups of 100 fighter jets approaching our base. Get all the B-2 Spirits in the air and stock them with as many bombs as you need and take-em down!"

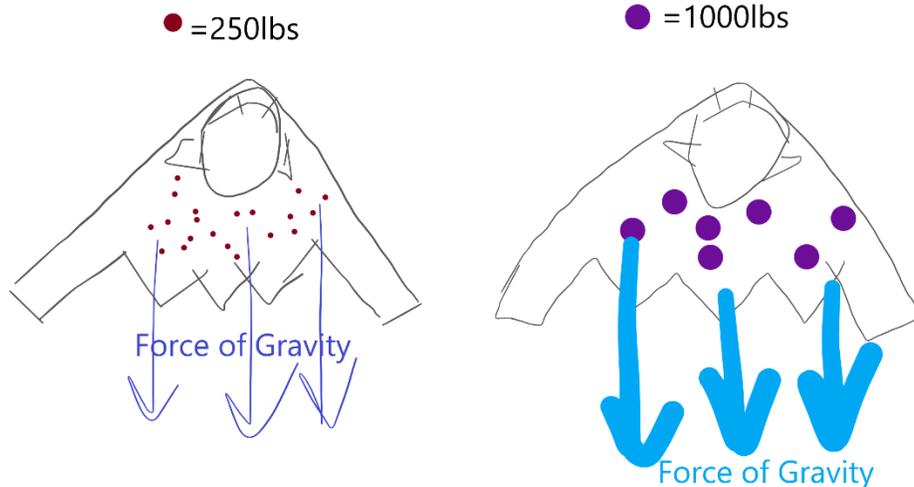
## Fun Facts:

- 1 B-2 Spirit can carry 40,000lbs of bombs
- 1 bomb is about 250-1000lbs

How many B-2 spirits do you need at least to bomb all the fighter jets?

Ask, think, make a note of:

- Can you fit more bombs if they weigh less, or more bombs if they weigh more?



- How many bombs do you need if you are a sharpshooter and never miss?
  - 1 bomb per fighter jet
  - Would you add extra bombs or are you a sharpshooter, Adam? :)
- Write down some questions if you're confused and we'll tackle them together.

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Facts:

1. 400 bombs
2. Each weigh 250lbs
3. 1 B-2 can carry 40,000lbs

Try it Yourself Strategies:

- Strategy:
  - $400 * 250 = 100,000$ lbs of bombs total
  - $\frac{100,000}{40,000} = 100,000 \div 40,000 = 2.5$  B-2 bombers.

Can you have 2.5 B-2 bombers in real life? Naaaaaaaaaw. Will all the bombs fit into 2 or will they fit into 3?

- $\frac{100,000}{2} = 50,000$  lbs. If the weight is distributed between 2 B-2 Spirits, they will not be able to carry it together since 50,000lbs each is more than what each cargo load can fly with.
- $\frac{100,000}{3} = 33,333.333 \dots$  If we use 3 bombers, we can distribute the bombs to weigh roughly 33,333.333...lbs per Spirit. Since 33,333.333...lbs is less than 40,000lbs, each B-2 will be able to take off and take out the 400 fighter jets.
- Don't forget to draw a picture of a B-2 Spirit and the fighter jets. I'm sure you can draw a better one than I did! What type of jets are the fighter jets?

Comments:

Hey Adam!

I hope you drew lots of pictures of fighter jets, B-2 Spirits. You know, Master Chief probably figured out thousands of these problems before. There is a fighter plane in Halo modeled after the B-2 Spirit, I wonder if you can find its tag sometime. Writing out questions, or common steps you noticed between all the problems next to each picture can make it easier and faster. If you ever want to try new steps or strategies in math, don't be afraid to, I can help you with them if you would like. Tell your parents I said hi, and that I think you're making great progress!

Sincerely,

Anika