

Focus Standards and Claim

Claim 3
6.RP.3.b

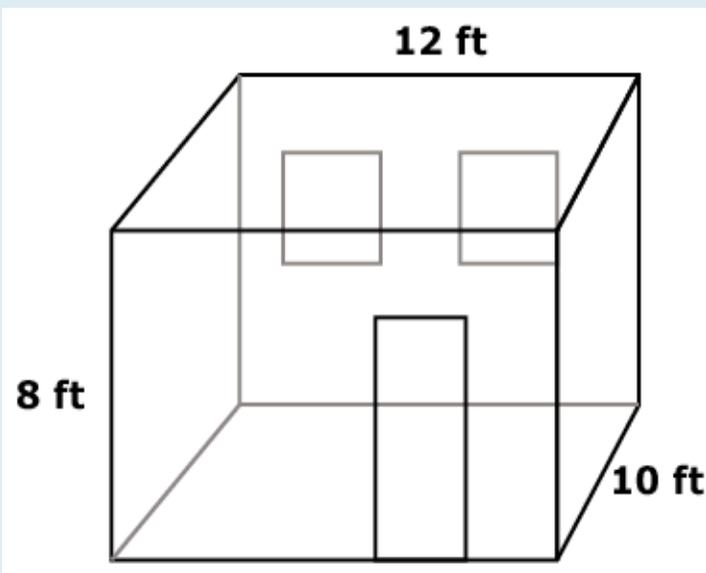
Stimulus

Let's Paint a Room

Your friend Sam wants to paint her room. She wants to paint the ceiling white and the four walls purple.

You are helping Sam determine the cost and the amount of time needed to paint her room.

The room is shaped like a rectangular prism with a height of 8 feet, length of 12 feet, and width of 10 feet as shown.



Additional information about Sam's room:

- The door has an area of 22 square feet.
- The room has 2 square windows.
- Each window opening is 2 feet by 2 feet.

Item Prompt	<p>Sam and you are going to paint your room together.</p> <p>Sam takes 10 minutes to paint 25 square feet.</p> <p>It takes you 5 minutes to paint 25 square feet.</p> <p>Sam says, "If we paint together, then it will take 15 minutes for us to cover 50 square feet."</p> <p>Give an explanation to convince Sam that she is incorrect.</p>
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Sample Responses

Sample Response A	<p>Sam is incorrect because I would be done first, and It would only take 10 mins for 50 square feet.</p>
Sample Response B	<p>When I am done painting my 25 she will still be painting so I will be painting another 25 square feet which will add up to 75 feet of area and then there will still be 5 more minutes so then I can paint another 25 which will add it up to 100 square feet.</p>
Sample Response C	<p>Sam's explanation is incorrect. It would take 10 minutes to paint 50 square feet. If Sam and I painted at the same time I would finish first (5 minutes). Sam would finish 5 minute (after 10 minutes). After we both finish we would have covered 50 square feet in 10 minutes. It would take 10 min for 50 if she stopped painting. If she continued it would take 10 min for 75 ft.</p>
Sample Response D	<p>Sam would be incorrect because $10 \times 5 = 50$ not 15. It would be 50. $25 + 25$ is 50.</p>
Sample Response E	<p>Sam is incorrect because he/she takes 10 minutes to cover 25 square feet. It is not going to take 15 minutes because what if I take longer or we run out of paint.</p>
Sample Response F	<p>Sam is incorrect because if it takes us 5 minutes to paint 25 square feet, double of 25 is 50 and double of 5 is 10 so it would only take us 10 minutes to paint 50 square feet.</p>

Sample Response G	Alone it would take me 10 minutes to paint 50 square feet. With you alone it would take 20 minute just to paint 50 square feet. If we paint together for 15 minutes I would have painted 75 square feet, while you would have made 30 square feet. So if we work together for 15 minutes we would have painted 105 square feet.
Sample Response H	She is incorrect cause it will take 30 mins to cover 50 square feet.
Sample Response I	Sam's statement is wrong because she just added the time and the number of square feet. In reality Sam would paint 37.5 square feet and I'll paint 75 square feet. In 15 minutes we would paint 112.5 square feet.