






Focus
Standards
and Claim

Claim 4
4.NF.B.4c

Stimulus

Clay Pottery

Lizzie and Zela are interested in making pottery. The following chart shows how much clay is needed to make different projects.

Project	Pounds of Clay Needed
 Small Plate	$2\frac{1}{2}$
 Small Bowl	$1\frac{1}{2}$
 Large Bowl	$3\frac{1}{4}$
 Dinner Plate	$4\frac{1}{2}$
 Mug	$\frac{3}{4}$

Item Prompt

Zela wants to make a set of 6 mugs. The clay **only** comes in 1-pound blocks.



What is the **least** number of blocks of clay Zela will need to make 6 mugs?

Explain how you figured out your answer.

Note: Zela knows that leftover clay from each block can be squished together and used.

Sample Responses

Sample Response A

$$1 \text{ mug } \frac{3}{4} + 2 \text{ mugs } \frac{3}{4} + 3 \text{ mugs } \frac{3}{4} = \frac{9}{4}$$

$$4 \text{ mugs } \frac{3}{4} + 5 \text{ mugs } \frac{3}{4} + 6 \text{ mugs } \frac{3}{4} = \frac{9}{4}$$

$$\frac{9}{4} + \frac{9}{4} = \frac{18}{4}$$

She will need $\frac{18}{4}$ of clay to make six mug because 1 mug is $\frac{3}{4}$. for you can get your answer add all of them.

Sample Response B

$$75 + 75 = 150$$

$$150 + 150 = 300$$

$$300 + 300 = 600$$

I doubled 75 3 times and got 600 which is equal to 6 pounds of clay.

Sample Response C

$$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{18}{4}$$

$$1 = \frac{4}{4} = \frac{14}{4} - \frac{4}{4} = \frac{10}{4} - \frac{4}{4} = \frac{6}{4} - \frac{4}{4} = \frac{2}{4}$$

The least number is 5.

Sample
Response D

$$3 \times 6 = 18/4$$

$$18/4 = 6 \text{ mugs}$$

Do not add demonaters!

Only 1 pound blocks.

Question: How many 4s in 18?

$$4 \times 4 = 16$$

$$18/4 - 4/4 = 14/4$$

$$14/4 - 4/4 = 10/4$$

$$10/4 - 4/4 = 6/4$$

$$6/4 - 4/4 - 2/4$$

About leftover = $2/4$

So you will need 5 pounds.

Zela will need 5 pounds. I know this because I subtracted $18/4$ by $4/4$ and so on. After that $2/4$ were left and without the $2/4$ will be 4 pounds. But Zela needs that $2/4$ so she will actually need 5 pounds.

Sample
Response E

wants to make 6 mugs

clay only comes in 1-pound

least number of blocks of clay zela will need

$$3/4 \quad 3/4 \quad 3/4 \quad 3/4 \quad 3/4 \quad 3/4$$

$$18/4$$

$$4 \quad 5$$

Zela will need 5 pounds to make 6 mugs because I wrote $3/4$ 6 times and added all the numerators and got 18 and multiplied $4 \times 4 = 16$ and got 5 and 4 then I knew it was 5.

Sample
Response F

4 mugs

Sample
Response G

$$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$$

$$\frac{4}{4} = 1$$

$$\frac{18}{4} \div 4 = \frac{14}{4} \div 4 = \frac{10}{4} \div 4 = \frac{6}{4} \div 4 = \frac{2}{4}$$

Zela will need at least 5 pound for 6 mugs. She will need 5 pounds because Zela will need an extra half pound to make 6 mugs.

Sample
Response H

1 clay block = 1.25 mugs

$$1.25 + 1.25 + 1.25 + 1.25 + 1.25 = 6.25$$

It will take Zela 5 blocks of clay to make 6 mugs. I figured out my answer by knowing that there will be $\frac{1}{4}$ left from each clay block.

Sample
Response I

$$\frac{3}{4} + \frac{3}{4} = 1 \frac{1}{2}$$

$$\frac{3}{4} + \frac{3}{4} = 1 \frac{1}{2}$$

$$\frac{3}{4} + \frac{3}{4} = 1 \frac{1}{2}$$

$$1 \frac{1}{2} + 1 \frac{1}{2} = 3$$

$$3 + 1 \frac{1}{2} = 4 \frac{1}{2}$$

$$4 \frac{1}{2} + \frac{1}{2} = 5 \text{ (extra } \frac{1}{2} \text{ is to make a whole pound)}$$

The least number of blocks of clay Zela could get is 5.