Key 9/30 3rd

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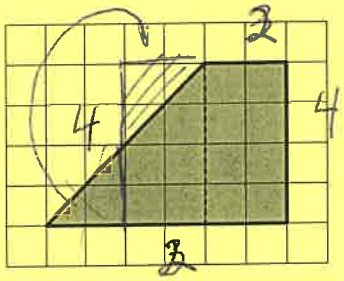
Unit 1, Lesson 7: From Parallelograms to Triangles

1. To decompose a quadrilateral into two identical shapes, Clare drew a dashed line as shown in the diagram. DO /2

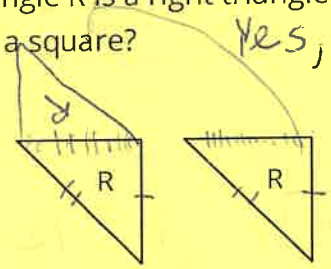


a. She said the that two resulting shapes have the same area. Do you agree? Explain your reasoning.

Yes, rearrange to make another rectangle that is ~~2×4=12 un²~~ $2 \times 4 = 8$ un²

b. Did Clare partition the figure into two identical shapes? Explain your reasoning. No, same area, but one was a △ the other a rectangle.

DO 2. Triangle R is a right triangle. Can we use two copies of Triangle R to compose a parallelogram that is not a square?



Yes, compose so one of the sides of the right angle touches the other.

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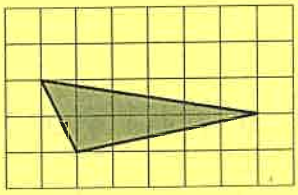
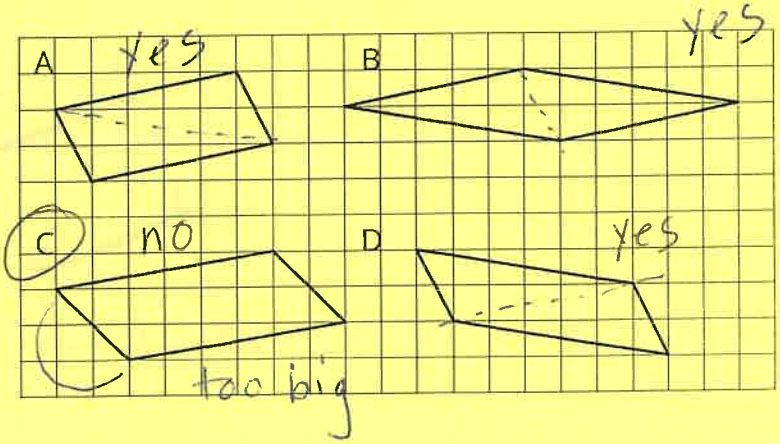
If so, explain how or sketch a solution. If not, explain why not. Yes

DO 3. Two copies of this triangle are used to compose a parallelogram. Which parallelogram *cannot* be a result of the composition? If you get stuck, consider using tracing paper.





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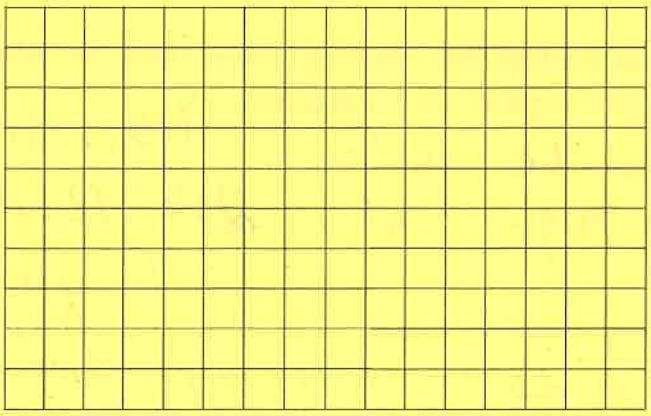
4. a. On the grid, draw at least three different quadrilaterals that can each be decomposed into two identical triangles with a single cut (show the cut line). One or more of the quadrilaterals should have non-right angles.

skip



b. Identify the type of each quadrilateral.

$\frac{9}{1} \cdot \frac{2}{3} =$? $\frac{2}{3}$ un, 9 un

5. a. A parallelogram has a base of 9 units and a corresponding height of $\frac{2}{3}$ units. What is its area?

draw a picture for each

b. A parallelogram has a base of 9 units and an area of 12 square units. What is the corresponding height for that base?

$12 un^2$, 9 un, $9 \cdot ? = 12$

c. A parallelogram has an area of 7 square units. If the height that corresponds to a base is $\frac{1}{4}$ unit, what is the base?

$7 un^2$, ?, $? \cdot \frac{1}{4} = 7$

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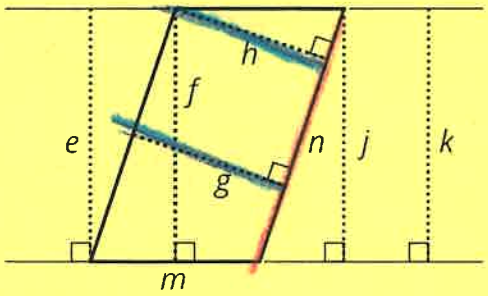
(from Unit 1, Lesson 6)

6. Select **all** segments that could represent a corresponding height if the side n is the base.

DO



g + h meet n at a right angle

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(from Unit 1, Lesson 5)