

1. If  $n = 4$ , what does  $(3n-2)(5-n)$  equal? Show your work.

$$(3n-2) \cdot (5-n)$$

$$(3 \cdot 4 - 2) \cdot (5 - 4)$$

$$(12 - 2) \cdot 1$$

$$10 \cdot 1 = 10$$

2. The photos for the sports section of the newspaper have arrived! Each photo measures 2 by 3 inches and Samuel needs to lay out 8 pages that requires him to enlarge and reduce them in several ways. Explain which number(s) from the list below Samuel should multiply each side length by to get each of the desired results. Explain your reasoning in each case.

- 10,  $\frac{2}{3}$ ,  $\frac{1}{3}$ ,  $\frac{8}{10}$ ,  $\frac{10}{8}$ ,  $\frac{10}{3}$

- a. To make the photo much larger.  $10/3$
- b. To make the photo slightly larger.  $8/7$
- c. To make the photo much smaller.  $1/10$
- d. To make the photo slightly smaller.  $8/9$
- e. To keep the photo the same size.  $10/10$   $8/8$



3. Multiply the following. Show your work.

a.  $(1/2)(3/4) =$

$$\frac{1}{2} \cdot \frac{3}{4} = \frac{3}{8}$$

b.  $4(2/3)$

$$4 \times \frac{2}{3} = \frac{8}{3} = 2\frac{2}{3}$$

c.  $2.5(1.3)$

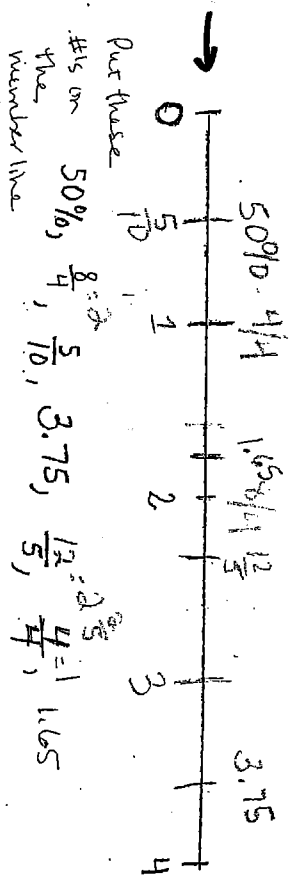
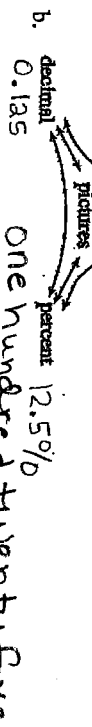
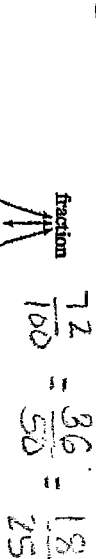
$$\begin{array}{r} 2.5 \\ \times 1.3 \\ \hline 75 \\ 250 \\ \hline 3.25 \end{array}$$

d.  $3(4/6)$

$$3 \times \frac{4}{6} = \frac{12}{6} = 2$$

$\frac{3}{1} \times \frac{25}{6} = \frac{75}{6} = 12\frac{3}{6} = 12\frac{1}{2}$

4. Complete each Representations of a Portion Web below.

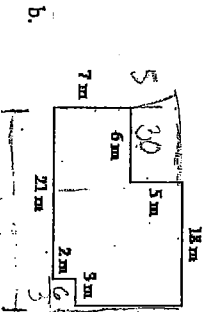


5 How can rectangles help you find the areas of the irregular shapes below? Talk with your team or partner about what rectangles you see in the shapes and how the areas of those rectangles can help you find the total area of each larger, irregular shape. All angles are right angles.

a. Find the shaded area.



$A = b \cdot h$   
 $A = 25 \cdot 9$   
 $A = 225$   
 $A = b \cdot h$   
 $A = 10.5 \cdot 2$   
 $A = 21$   
 $- A = 21$



$A = b \cdot h$   
 $A = 24 \cdot 12$   
 $A = 288$

$A = 204 \text{ m}^2$

6 Additional Challenge: On graph paper, graph  $\triangle ABC$  if  $A$  is at  $(-2, -3)$ ,  $B$  is at  $(-2, 5)$ , and  $C$  is at  $(3, 0)$ .

a. What is the length of the base of  $\triangle ABC$ ? Label side  $AB$  with its length in grid units.  $AB = 8 \text{ units}$

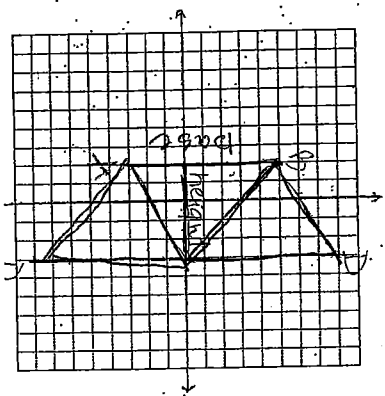
b. What is the height of  $\triangle ABC$ ? Draw this length on your graph and label it.  $\text{height} = 15 \text{ units}$

c. What is the area of  $\triangle ABC$ ? Show how you got your answer.

d. If you formed a parallelogram with the triangle on your graph using a copy of  $\triangle ABC$ , where would the fourth vertex be? Is there more than one possible answer?  $\text{yes}$

c.  $A = b \cdot h \div 2$   
 $A = 8 \cdot 5 \div 2$   
 $A = 40 \div 2$   
 $A = 20 \text{ u}^2$

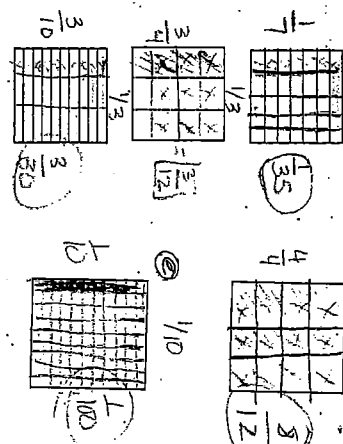
d.  $D(5, 8)$   
 $(5, -8)$



Name \_\_\_\_\_ Period \_\_\_\_\_

5-3. For each product below, choose the diagram below that might be useful. Complete it to find the product.

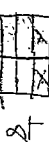
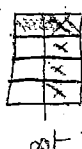
a.  $2\frac{1}{3} \cdot \frac{3}{4} = \frac{13}{12} = 1\frac{1}{4}$   
 b.  $\frac{3}{4} \cdot \frac{1}{2} = \frac{3}{8}$   
 c.  $\frac{1}{10} \cdot \frac{3}{10} = \frac{3}{100}$   
 d.  $\frac{4}{3} \cdot \frac{1}{3} = \frac{4}{9}$   
 e.  $\frac{1}{10} \cdot \frac{1}{10} = \frac{1}{100}$



5-11. Grace and William were wondering if one half of a quarter would be the same as one quarter of a half. "But half of something is 50% and a quarter is the same as 25%, so if that's true, then 25% of 50% should be the same as 50% of 25%. Something seems wrong with that to me," Grace said.

Investigate Grace and William's question by completing parts (a) through (c) below.

a. Draw a picture that shows one half of one fourth.



b. Draw a picture that shows one fourth of one half.

c. Write a note to Grace and William explaining how these two values compare and why the result makes sense.

*Hopefully they could connect and why*

5-22. Additional Challenge: Calculate each of the following parts of parts.

a.  $\frac{2}{3}$  of 70%  $\frac{2}{3} \times \frac{70}{100} = \frac{14}{15}$   
 b.  $3\frac{1}{2} \cdot \frac{2}{3} = \frac{35}{15} = 2\frac{2}{15}$

$\frac{14}{15} \cdot \frac{2}{3} = \frac{28}{45} = 2\frac{2}{15}$

*the lines of 2x3=6 and 3x2=6 commutative property.*