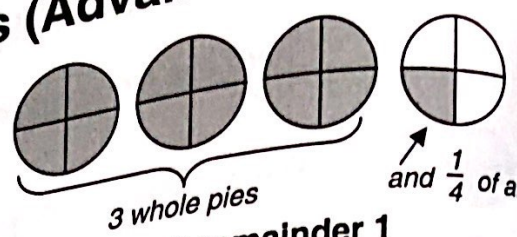


NS5-69: Mixed and Improper Fractions (Advanced)



How many whole pies are there in $\frac{13}{4}$ pies?

There are 13 pieces altogether, and each pie has 4 pieces.
So you can find the number of whole pies by dividing 13 by 4:

$$13 \div 4 = 3 \text{ remainder } 1$$

$$\frac{13}{4} = 3 \frac{1}{4}$$

There are 3 whole pies and 1 quarter left over, so:

1. Find the number of whole pies in each amount by dividing.

- a) $\frac{6}{2}$ pies = _____ whole pies b) $\frac{8}{2}$ pies = _____ whole pies c) $\frac{12}{2}$ pies = _____ whole pies
 d) $\frac{9}{3}$ pies = _____ whole pies e) $\frac{15}{3}$ pies = _____ whole pies f) $\frac{16}{4}$ pies = _____ whole pies

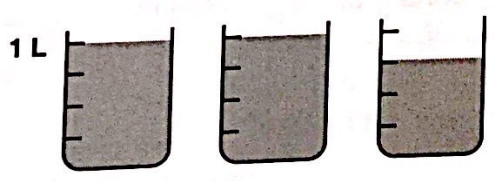
2. Find the number of whole and the number of pieces remaining by dividing.

- a) $\frac{7}{2}$ pies = 3 whole pies and 1 half pie = $3 \frac{1}{2}$ pies
 b) $\frac{13}{3}$ pies = _____ whole pies and _____ third = _____ pies
 c) $\frac{11}{3}$ pies = _____ whole pies and _____ thirds = _____ pies
 d) $\frac{15}{4}$ pies = _____ whole pies and _____ quarter pies = _____ pies

3. Write the following improper fractions as mixed fractions.

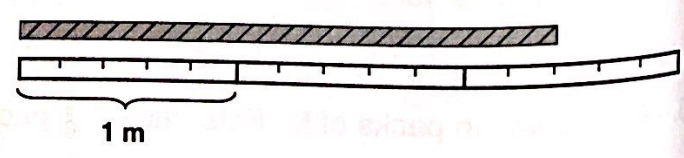
- a) $\frac{5}{2} =$ b) $\frac{9}{2} =$ c) $\frac{10}{3} =$ d) $\frac{11}{4} =$ e) $\frac{13}{5} =$

4. a) Write a mixed and improper fraction for the number of litres.



Mixed _____ Improper _____

b) Write a mixed and improper fraction for the length of the rope.

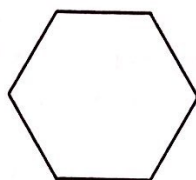


Mixed _____ Improper _____

5. How much greater than a whole is ...

- a) $\frac{10}{7}$? b) $\frac{6}{5}$? c) $\frac{4}{3}$?

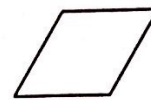
TEACHER:
Your students will need pattern blocks for this exercise, or a copy of the patterns block sheet from the Teacher's Guide.



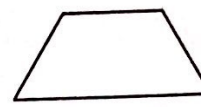
hexagon



triangle



rhombus



trapezoid

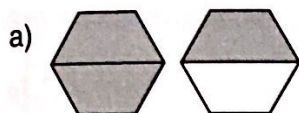
NOTE: The blocks shown here are not actual size!

Euclid's bakery sells hexagonal pies. They sell pieces shaped like triangles, rhombuses, and trapezoids.

1. a) Shade $2\frac{5}{6}$ pies: b) How many pieces did you shade? _____

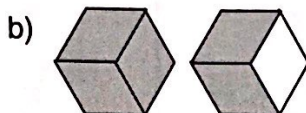
c) Write an improper fraction from the amount of pie shaded: _____

2. Make a model of the pies below with pattern blocks. (Place the smaller shapes on top of the hexagons). Then write a mixed and an improper fraction for each pie.



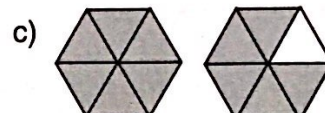
Mixed Fraction: _____

Improper Fraction: _____



Mixed Fraction: _____

Improper Fraction: _____



Mixed Fraction: _____

Improper Fraction: _____

3. Use the hexagon as the whole pie. Use the triangles, rhombuses and trapezoids as the pieces. Make a pattern block model of the fractions below. Then sketch your models on the grid.

a) $2\frac{1}{2}$

b) $1\frac{1}{2}$

c) $2\frac{1}{6}$

d) $1\frac{2}{3}$

e) $\frac{3}{2}$

f) $\frac{11}{6}$

g) $\frac{5}{3}$

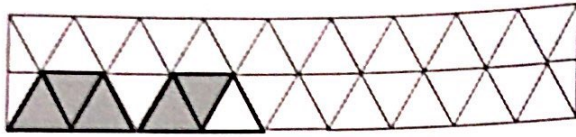
h) $\frac{10}{3}$

NS5-70: Investigating Mixed and Improper Fractions

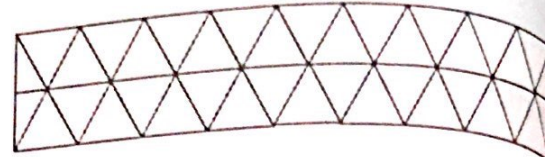
(continued)

4. Using the trapezoid as the whole pie, and triangles as the pieces, make a pattern block model of the fractions. Sketch your models on the grid. The first one is done for you.

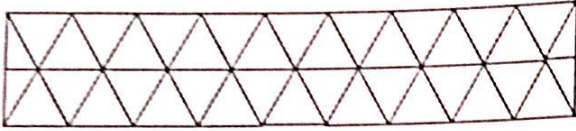
a) $\frac{5}{3}$



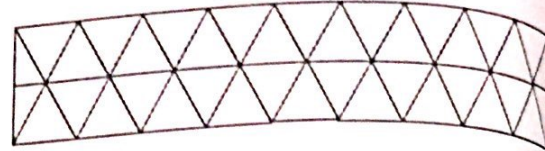
b) $\frac{7}{3}$



c) $1\frac{2}{3}$

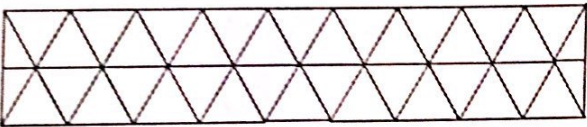
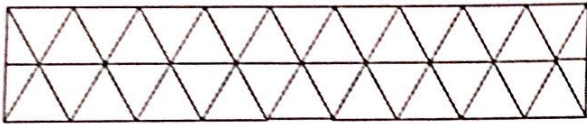


d) $2\frac{1}{3}$

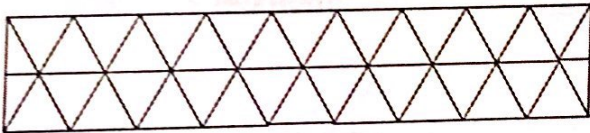


Draw sketches (using the hexagon as the whole) to find the answers below.

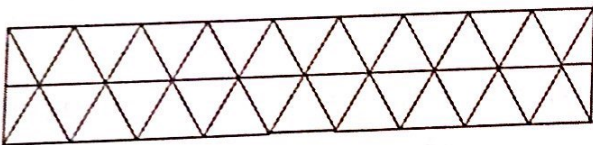
5. Which fraction is greater: $1\frac{5}{6}$ or $\frac{9}{6}$?



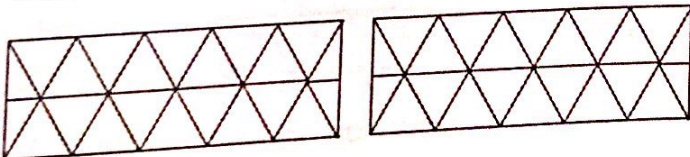
7. Draw a picture to show $3 - \frac{1}{6}$.



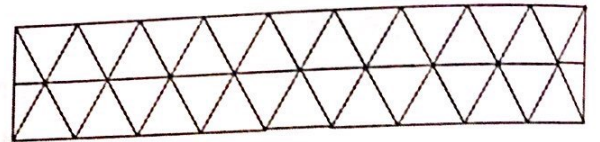
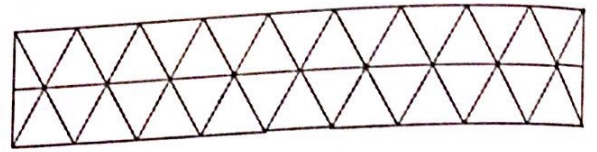
9. How much larger than a whole is $\frac{4}{3}$?



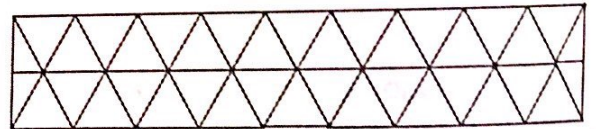
11. Ahmed ate $1\frac{1}{3}$ pies during the week.
Jill ate $\frac{1}{6}$ of a pie each day for a week.
Who ate more pie?



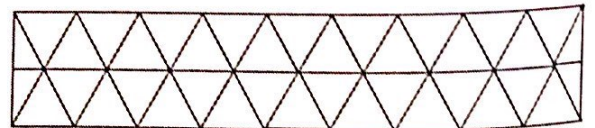
6. Which fraction is greater: $2\frac{1}{6}$ or $\frac{14}{6}$?



8. How much larger than a whole pie is $\frac{7}{6}$ of a pie?



10. Crystal ate $\frac{2}{3}$ of a pie each day for 4 days in a row. How much did she eat altogether?



12. Alice ate $3\frac{2}{3}$ pies in January.
How many third-sized pieces did she eat?

