2. ➤A. Make $\frac{5}{6}$ using <u>all horizontal or all vertical lines</u> ↗

  B. Split each sixth into [2] pieces without changing the shading or original partition lines and splitting in other direction

  C. Explain the split.

  D. Explain why $6 \times [2]$ is number of pieces in whole now, so [twelfths]

  E Explain why $5 \times [2]$ is number of pieces.

  F. Tell a final version: $\frac{5}{6} = \frac{5 \times [2]}{6 \times [2]} = \frac{[10]}{[12]}$

   [2] could be 3, 4, 5, etc.

3.A Show $\frac{9}{15}$

  B. Show grouping by ③

  C. Explain making groups of 3 (or $\frac{3}{15}$) (I can make groups of 9 fifteenths 3 out of the (or 9 shaded) and out of the 15 parts in a whole
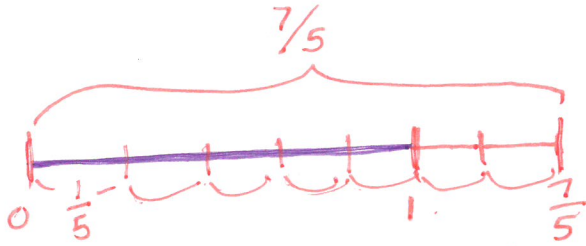
  D. Explain $9 \div 3 = 3$ groups shaded

  E. Explain $15 \div 3 = 5$ groups in whole so each is a fifth

  F Tell $\frac{9}{15} = \frac{9 \div 3}{15 \div 3} = \frac{3}{5}$

   groups of 3

The whole is the length below.
Show and explain how to get $\frac{7}{5}$

$^{7}/_{5}$

0   $\frac{1}{5}$ 1 $\frac{7}{5}$

Split the whole into <u>5 equal parts</u> to
get fifths

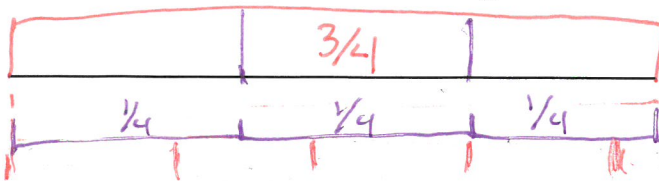Add on more lengths of size $\frac{1}{5}$ to get <u>7 fifths</u>

→   **Extensions**

1. Pirate Jack buried $\frac{1}{2}$ of his treasure. He gave $\frac{1}{3}$ of the remaining treasure to his trusty mate Pirate Joe. Pirate Joe received $3000 in gold. Exactly how much gold was in Pirate Jack's whole treasure? <u>Draw a picture</u> to show the solution.

2. Joshkin built a tower using blocks that linked together. I noticed that he had 27 blocks in $\frac{3}{7}$ of his tower. Exactly how many blocks were in this entire tower?

    Provide a clear description of your solution strategy.

3. The line below is $\frac{3}{4}$ as long as a ribbon I have. Draw a line the same length as my ribbon and another line that is $1\frac{1}{6}$ as long as my ribbon. Label the lines.
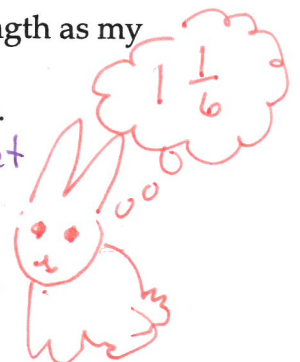
    split into 3 to get 3 fourths

    $1\frac{1}{6}$

    3/4

    4 fourths = 1

    ¼   ¼   ¼   ¼

    my ribbon

    take whole — split first ½ into 3 parts and second ½ part into 3 parts : this makes (sixths) (6 equal parts)
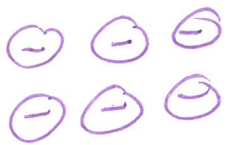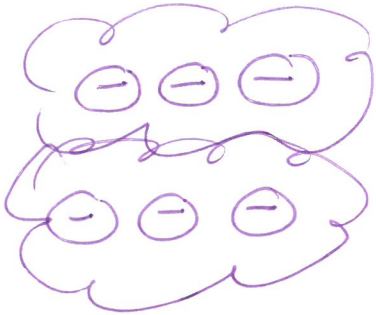
    $1\frac{1}{6}$

    draw 1 whole and add on 1 more sixth

pictures

$2 \times (-3)$

What & why

means ②groups of ⟨-3⟩

put ⟨3- in a group⟩
and ⟨3- in another group⟩

Add them up   to get -6

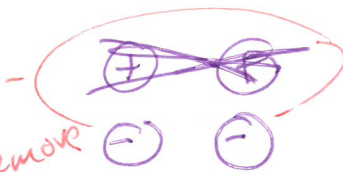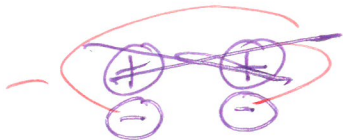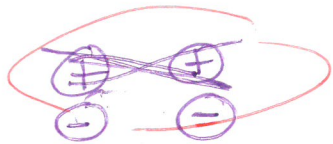| picture(s)	what to do & why
2 − (−3)	

Put out 2+ chips
for number 2

Put out 3+ and 3− chips
there are no ⊖ to take
away, so put out 3 zeros.

this is like borrowing $3: I
get $3 and owe $3.

Cross out 3 − chips
cross out to subtract,
Take away the 3⊖ to subtract −3

Answer is 5 + chips
= 5

$2 \times (-3)$

remove chips

means 2 per group and -3 groups

means take away 3 groups with 2 per group

start w/ 3 groups & 2 $\oplus$ $\ominus$ in each group $\overbrace{}^{zero}$

take away those groups

3 groups of $2\oplus$

Have -6 Left.