

## Reasoning

Alex says,



I can only divide a fraction by an integer if the numerator is a multiple of the divisor.

Do you agree?  
Explain why.

## Problem Solving

Calculate the missing fractions and integers.

$$\square \div 4 = \frac{7}{36}$$

$$\frac{3}{20} \div \square = \frac{3}{80}$$

$$\square \div \square = \frac{2}{5}$$

Is there more than one possibility?

## Reasoning Answers

Alex is wrong, we can divide any fraction by an integer.

## Problem Solving Answers

$$\frac{7}{9}$$

4

There are many possibilities in this last question. Children could look for patterns between the fractions and integers.

### Reasoning Answers

Tommy is correct.  
It may help  
children to  
understand this by  
reinforcing that  
 $\frac{1}{2} \times \frac{4}{11}$  is the same  
as  $\frac{1}{2}$  of  $\frac{4}{11}$

### Problem Solving Answers

$$\frac{1}{4} \times \frac{12}{13} = \frac{12}{13} \div 4$$

$$\frac{1}{6} \times \frac{12}{13} = \frac{12}{13} \div 6$$

$$\frac{1}{2} \times \frac{12}{13} = \frac{12}{13} \div 2$$

$$\frac{1}{3} \times \frac{12}{13} = \frac{12}{13} \div 3$$

## Reasoning Answers

$$\frac{1}{6} \times \frac{1}{4}$$

Possible answers:

$$\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$$

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

Children could also use improper fractions.

## Problem Solving Answers

### Reasoning/PS Answers

$$8 \times 4\frac{3}{8} = 8 \times \frac{35}{8}$$
$$= \frac{280}{8} = 35$$

The distance between the first and last lamp post is 35 metres.

$$\triangle \times 5 = \frac{5}{6}$$

$$\parallel \times 5 = \frac{5}{3} = 1\frac{2}{3}$$

$$\blacktriangle \times 5 = \frac{5}{2} = 2\frac{1}{2}$$

$$4 \times 4\frac{1}{4} = \frac{68}{4}$$

$$= 17 \text{ hours}$$

$$5 \times 2\frac{3}{4} = \frac{55}{4}$$

$$= 13\frac{3}{4} \text{ hours}$$

Eva spent  $3\frac{1}{4}$  hours longer on her project than Amir did.