Bar diagrams to solve problems name:_____

There are some ratio problems where you don't really need a bar diagram:

1. There are 2/3 as many pens as pencils. There are 30 pencils, How many pens are there?

$\frac{2}{3}$ of 30 ← pencils

$\frac{2}{3} \times 30 = \frac{60}{3} = 20$ pens,

pens | 10 | 10 |

pencils | 10 | 10 | 10 | ← 30

2. There are 3/4 as many cats as dogs. There are 12 cats. How many dogs are there?

There are $\frac{4}{3}$ times as many dogs as cats

$1\frac{1}{3}$

cats dogs

$\frac{4}{3} \times 12 = \frac{48}{3} = 16$

c | 4 | 4 | 4 | 12

d | 4 | 4 | 4 | 4 |

16 dogs.

There are some other ratio problems, where a bar diagram is *really useful*.

3. Amy and Bob share a plate of cookie. Amy gets 2/3 as many as Bob. If there are 30 cookies on the plate, how many do each get?

Amy gets $6 \times 2 = 12$

Bob gets $6 \times 3 = 18$

A | 6 | 6 |

B | 6 | 6 | 6 | 30 in all

÷5

4. A package of stickers has stars and hearts. There are 2/5 as many stars as hearts. If there are 90 more hearts than stars, how many stars are there?

→ $2 \times 30 =$ 5 stars

S

H | | | | | | 90

$90 \div 3 = 30$

Problems to do with ratios and bar diagrams (1-step)

5. 3/10 of the beads in a jar are red. The rest are blue. If there are 200 more blue beads than red, how many beads are there altogether?

6. Mrs. Johnson mixed meat with potatoes in the ratio of 5:3 to make 4 kg of meat loaf. How much meat did she use?