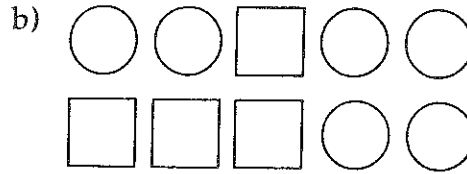
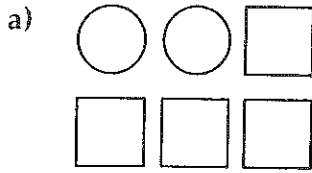


## 3.2 Equivalent Ratios and Proportions

### Practice

1. Write the ratio of circles to squares.



2. Write 3 ratios equal to each ratio.

a)  $2:3 = \underline{\quad} = \underline{\quad} = \underline{\quad}$       b)  $8:16 = \underline{\quad} = \underline{\quad} = \underline{\quad}$

*Multiply or divide each term by the same number.*

$2:3 = (2 \times 5) : (3 \times 5)$   
 $= 10 : \square$

$8:16 = (8 \div 2) : (16 \div 2)$   
 $= 4 : \square$

3. Circle T or F for each sentence.

a)  $2:3 = 4:9$       T or F

*Hint:*  $= (2 \times 2) : (3 \times 2)$   
 $= 4 : \square$

b)  $1:2 = 2:1$       T or F

c)  $5:8 = 10:24$       T or F

d)  $4:1 = 20:5$       T or F

e)  $\frac{12}{15} = \frac{3}{5}$       T or F

f)  $\frac{12}{4} = \frac{3}{1}$       T or F

g)  $7:2:3 = 14:4:6$       T or F

h)  $10:12:14 = 5:6:8$       T or F

*Multiply each term by 2.*

*Divide each term by 2.*

4. Find the unknown value in each proportion.

$$\begin{aligned} \text{a) } \frac{9}{18} &= \frac{x}{2} \\ &= \frac{9 \div 9}{18 \div 9} \\ &= \frac{\boxed{\phantom{000}}}{2} \end{aligned}$$

$$\text{b) } \frac{3}{2} = \frac{15}{a}$$

$$\text{c) } \frac{9}{12} = \frac{m}{4}$$

So, the missing term is  $\boxed{\phantom{000}}$ .

$$\text{d) } \frac{x}{5} = \frac{4}{20}$$

$$\text{e) } \frac{t}{15} = \frac{3}{5}$$

$$\text{f) } \frac{w}{25} = \frac{1}{5}$$

Rewrite!

$$\frac{4}{20} = \frac{x}{5}$$

$$\begin{aligned} &= \frac{4 \div 4}{20 \div 4} \\ &= \frac{\boxed{\phantom{000}}}{5} \end{aligned}$$

Rewrite!

So, the missing term is  $\boxed{\phantom{000}}$ .

5. Find the unknown value in each proportion.

$$\text{a) } 12:18 = x:3$$

$$\text{b) } 15:25 = y:5$$

$$\text{c) } 2:3 = p:12$$

Write ratio as a fraction

$$\frac{12}{18} \div 6 = \frac{\boxed{\phantom{000}}}{3}$$

$$x = \boxed{\phantom{000}}$$

$$\text{d) } 1:6 = r:24$$

$$\text{e) } 3:12 = n:4$$

$$\text{f) } 4:c = 12:15$$

Rewrite!

$$12:15 = 4:c$$

$$\text{g) } 12:t = 2:3$$

$$\text{h) } x:2 = 2:1$$

$$\text{i) } 3:2 = 15:a$$