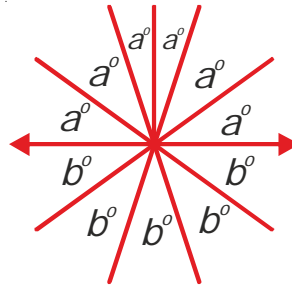


**01** In the given figure, what is the value of  $\frac{b+a}{b-a}$  ?

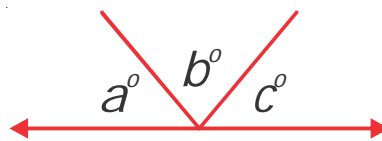


From the diagram, you see that

$6a = 180$ , which implies that  $a = 30$ , and that  $5b = 180$ , which implies that  $b = 36$

$$\text{Therefore: } \frac{b+a}{b-a} = \frac{36+30}{36-30} = \frac{66}{6} = 11$$

**02** In the given figure,  $a : b = 3 : 5$  and  $c : b = 2 : 1$ . What is the measure of the largest angle ?



Since  $a : b = 3 : 5$ , then for some number  $x$ ,  $a = 3x$  and  $b = 5x$ ; and since  $c : b = 2 : 1$ , then  $c = 2b = 10x$

Then,

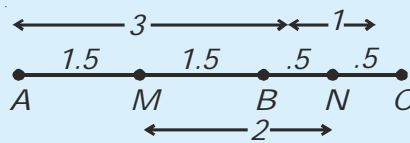
$$3x + 5x + 10x = 180 \Rightarrow 18x = 180$$

$$\text{So, } x = 10 \text{ and } c = 10x = 10(10) = 100$$

**03**

Since  $a : b = 3 : 5$ , then for some number  $x$ ,  $a = 3x$  and  $b = 5x$ ; and since  $c : b = 2 : 1$ , then  $c = 2b = 10x$ . Then,  $3x + 5x + 10x = 180 \Rightarrow 18x = 180$ , So,  $x = 10$  and  $c = 10x = 10(10) = 100$

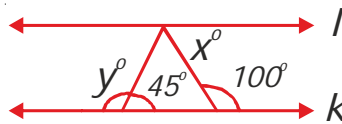
Since,  $AB : BC = 3 : 1$ , let  $AB = 3$  and  $BC = 1$



From the figure above, you can see that  $AB : MN = \frac{3}{2} = 1.5$

**04**

In the given figure, lines  $k$  and  $l$  are parallel. What is the value of  $y - x$ ?



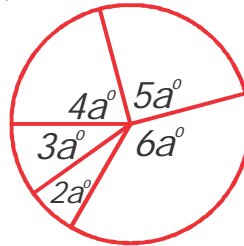
Since lines  $l$  and  $k$  are parallel, the angle marked  $y$  in the given diagram and the sum of the angles marked  $x$  and  $45$  are equal:

$$y = x + 45$$

$$\Rightarrow y - x = 45$$

**05**

In the given figure, what is the average (arithmetic mean) of the measure of the five angles ?



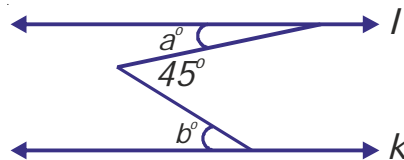
Angle at the centre is  $360^\circ$

Average of the measure of the five angles

$$= 360 \div 5 = 72^\circ$$

**06**

In the given figure, lines  $l$  and  $k$  are parallel. What is the value of  $a + b$  ?



Draw a line parallel to  $l$  and  $k$  through the vertex of the angle. Then, looking at the top two lines, you see that  $a = x$ , and looking at the bottom two lines, you have  $b = y$ . Therefore,  $a + b = x + y = 45$

