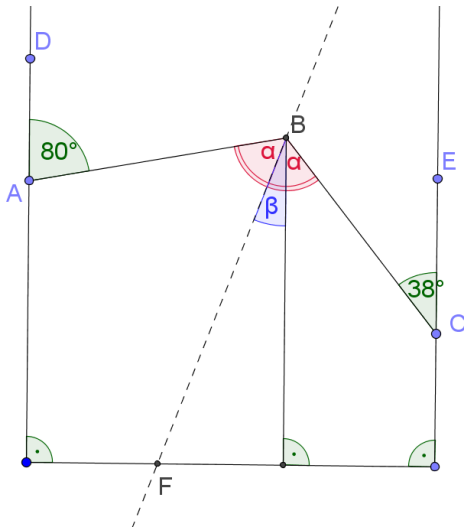


## Worksheet 1

1. The line  $BF$  bisects  $\angle ABC$ . Find the angle  $\beta$ .



2. Are there triangles with the following sides? If so, then decide whether they are right triangles or not.
- 12.5, 14.71, 28
  - 11.83, 4.6, 16.41
  - 0.5, 0.3, 0.4
  - 10.8, 25.5, 23.1
  - 13, 5, 12
3. Two sides of a right triangle are given. Determine the third side. The perpendicular sides (legs) are denoted by  $a$  and  $b$ , and the hypotenuse by  $c$ .
- $a = 24$ ,  $b = 31$
  - $a = 19$ ,  $b = 27$
  - $b = 12.1$ ,  $c = 19.3$
4. The perpendicular sides of an isosceles right triangle are
- 8 cm,
  - $a$  units long.
- Compute the length of the hypotenuse.
5. The base of an isosceles triangle is 16 cm long and the other sides are 13 cm long. Determine the height of the triangle.
6. The sides of an equilateral triangle are
- 12 cm,
  - $a$  units long.
- Compute the height of the triangle.

7. Two interior angles of a triangle are given in the following table. Compute the other interior angle and the exterior angles.

	$\alpha$	$\beta$	$\gamma$	$\alpha'$	$\beta'$	$\gamma'$
a)	79	95				
b)	$93^\circ$	$101^\circ$				
c)			$25.3^\circ$	$21.5^\circ$		

8. One angle of an isosceles triangle is given. What are the other two angles?
- a)  $54^\circ$
  - b)  $63^\circ$
  - c)  $64.8^\circ$
9. The ratio of the interior angles of a triangle is 2: 3: 4. Determine the exterior and the interior angles of the triangle.
10. **HW** The sides of a square are
- a)  $5\text{ cm}$
  - b)  $a$  units long.
- Compute the diagonal of the square.
11. The hypotenuse of an isosceles right triangle is  $3\text{ cm}$  longer than the legs. Calculate the perimeter and the area of the triangle.
12. **HW** One side of a rectangle is  $3\text{ cm}$  longer than the other. The diagonal is  $6\text{ cm}$  shorter than half the perimeter. Determine the lengths of the sides.