Answer on Question #48113 – Math – Geometry

Point D is in the interior of angle ABC, angle ABC= 10x - 7, angle ABD= 6x +5, and angle DBC= 36 degrees, what is angle ABD?

Solution:

$\angle \mathrm{ABC} = 10\mathrm{x} - 7$
$\angle \mathrm{ABD} = 6\mathrm{x} + 5$
$\angle \mathrm{DBC} = 36°$
Formula for the angle ABC:

$$\angle \mathrm{ABC} = \angle \mathrm{ABD} + \angle \mathrm{DBC}$$
$$10\mathrm{x} - 7 = 6\mathrm{x} + 5 + 36$$
$$4\mathrm{x} = 48$$
$$\mathrm{x} = 12$$

Hence, angle ABC:

$$\angle \mathrm{ABC} = 10\mathrm{x} - 7 = 10 \cdot 12 - 7 = 120 - 7 = 113°$$

Answer: $\angle \mathrm{ABC} = 113°$.