Problem:
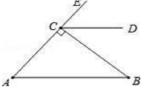
Description: "∠ABC=40°, CD‖AB,
BC is perpendicular to AC.
Find the measure of ∠ECD"

Construction:
Shape(CA,AB,BC), Shape(EC,CD) …

Construction (extended):
Shape(AB,BC,CA), Shape(BC,CA,AB) …

Conditions:
*Equal(MeasureOfAngle(ABC),40),
ParallelBetweenLine(CD,AB) …*

Answer: *50*

Proof:

1) *parallel_property_alternate_interior_angle(1,CD,AB)*

2) *angle_addition(1,ECD,DCB)*

3) *adjacent_complementary_angle(1,ECB,BCA)*

Theorem Dictionary (GDL):

parallel_property_alternate_interior_angle(AB,CD):
{
   1: {
    premises:
ParallelBetweenLine(AB,CD)&Line(AD),
    conclusions: *Equal(MeasureOfAngle(BAD), …)*
    },
  2: { ... },
  …
},
angle_addition(ABC, CBD): {
   1: { …},
 …
},
…