#	Predicates	Literal templates
1	Point	Point(A),Point($)
2	Line	Line(A,B),Line(m),Line($)
3	Angle	Angle(A,B,C),Angle(A),Angle(1),Angle($)
4	Triangle	Triangle(A,B,C),Triangle($),Triangle($1,$2,$3)
5	Quadrilateral	Quadrilateral(A,B,C,D),Quadrilateral($)
6	Parallelogram	Parallelogram(A,B,C,D),Parallelogram(1),Parallelogram($)
7	Square	Square(A,B,C,D),Square(1),Square($)
8	Rectangle	Rectangle(A,B,C,D),Rectangle(1),Rectangle($)
9	Rhombus	Rhombus(A,B,C,D),Rhombus(1),Rhombus($)
10	Trapezoid	Trapezoid(A,B,C,D),Trapezoid(1),Trapezoid($)
11	Kite	Kite(A,B,C,D),Kite(1),Kite($)
12	Polygon	Polygon($)
13	Pentagon	Pentagon(A,B,C,D,E),Pentagon($)
14	Hexagon	Hexagon(A,B,C,D,E,F),Hexagon($)
15	Heptagon	Heptagon(A,B,C,D,E,F,G),Heptagon($)
16	Octagon	Octagon(A,B,C,D,E,F,G,H),Octagon($)
17	Circle	Circle(A),Circle(1),Circle($)
18	Arc	Arc(A,B),Arc(A,B,C),Arc($)
19	Sector	Sector(O,A,B),Sector($)
20	Shape	Shape($)

Table 10: 20 predicates and corresponding literal templates for geometric shapes.

#	Predicates	Literal templates
1	RightAngle	RightAngle(Angle($))
2	Right	Right(Triangle($))
3	Isosceles	Isosceles(Polygon($))
4	Equilateral	Equilateral(Polygon($))
5	Regular	Regular(Polygon($))
6	Red	Red(Shape($))
7	Blue	Blue(Shape($))
8	Green	Green(Shape($))
9	Shaded	Shaded(Shape($))

Table 11: 9 predicates and corresponding literal templates for unary geometric attributes.

#	Predicates	Literal templates
1	AreaOf	AreaOf(A)
2	PerimeterOf	PerimeterOf(A)
3	RadiusOf	RadiusOf(A)
4	DiameterOf	DiameterOf(A)
5	CircumferenceOf	CircumferenceOf(A)
6	AltitudeOf	AltitudeOf(A)
7	HypotenuseOf	HypotenuseOf(A)
8	SideOf	SideOf(A)
9	WidthOf	WidthOf(A)
10	HeightOf	HeightOf(A)
11	LegOf	LegOf(A)
12	BaseOf	BaseOf(A)
13	MedianOf	MedianOf(A)
14	IntersectionOf	IntersectionOf(A,B)
15	MeasureOf	MeasureOf(A)
16	LengthOf	LengthOf(A)
17	ScaleFactorOf	ScaleFactorOf(A,B)

Table 12: 17 predicates and corresponding literal templates for geometric attributes .

#	Predicates	Literal templates
1	PointLiesOnLine	PointLiesOnLine(Point($),Line($1,$2))
2	PointLiesOnCircle	PointLiesOnCircle(Point($),Circle($))
3	Parallel	Parallel(Line($),Line($))
4	Perpendicular	Perpendicular(Line($),Line($))
5	IntersectAt	IntersectAt(Line($),Line($),Line($),Point($))
6	BisectsAngle	BisectsAngle(Line($),Angle($))
7	Congruent	Congruent(Polygon($),Polygon($))
8	Similar	Similar(Polygon($),Polygon($))
9	Tangent	Tangent(Line($),Circle($))
10	Secant	Secant(Line($),Circle($))
11	CircumscribedTo	CircumscribedTo(Shape($),Shape($))
12	InscribedIn	InscribedIn(Shape($),Shape($))

Table 13: 12 predicates and corresponding literal templates for binary geometric relations.

#	Predicates	Literal templates
1	IsMidpointOf	IsMidpointOf(Point($),Line($))
2	IsCentroidOf	IsCentroidOf(Point($),Shape($))
3	IsIncenterOf	IsIncenterOf(Point($),Shape($))
4	IsRadiusOf	IsRadiusOf(Line($),Circle($))
5	IsDiameterOf	IsDiameterOf(Line($),Circle($))
6	IsMidsegmentOf	IsMidsegmentOf(Line($),Triangle($))
7	IsChordOf	IsChordOf(Line($),Circle($))
8	IsSideOf	IsSideOf(Line($),Polygon($))
9	IsHypotenuseOf	IsHypotenuseOf(Line($),Triangle($))
10	IsPerpendicularBisectorOf	IsPerpendicularBisectorOf(Line($),Triangle($))
11	IsAltitudeOf	IsAltitudeOf(Line($),Triangle($))
12	IsMedianOf	IsMedianOf(Line($),Quadrilateral($))
13	IsBaseOf	IsBaseOf(Line($),Quadrilateral($))
14	IsDiagonalOf	IsDiagonalOf(Line($),Quadrilateral($))
15	IsLegOf	IsLegOf(Line($),Trapezoid($))

Table 14: 15 predicates and corresponding literal templates for A-IsXOf-B-type geometric relations.

#	Predicates	Literal templates
1	SinOf	SinOf(Var)
2	CosOf	CosOf(Var)
3	TanOf	TanOf(Var)
4	CotOf	CotOf(Var)
5	HalfOf	HalfOf(Var)
6	SquareOf	SquareOf(Var)
7	SqrtOf	SqrtOf(Var)
8	RatioOf	RatioOf(Var),RatioOf(Var1,Var2)
9	SumOf	SumOf(Var1,Var2,...)
10	AverageOf	AverageOf(Var1,Var2,...)
11	Add	Add(Var1,Var2,...)
12	Mul	Mul(Var1,Var2,...)
13	Sub	Sub(Var1,Var2,...)
14	Div	Div(Var1,Var2,...)
15	Pow	Pow(Var1,Var2)
16	Equals	Equals(Var1,Var2)
17	Find	Find(Var)
18	UseTheorem	UseTheorem(A_B_C)

Table 15: 18 predicates and corresponding literal templates for numerical attributes and relations.