

```
FUNCTION PythagSum (a: REAL; b: REAL): REAL;
VAR p, q, r, s : REAL;
CONST dp = 0.005; {desired precision as a REAL}
BEGIN
  IF (ABS(a) > ABS(b)) THEN
    BEGIN p := ABS(a); q := ABS(b) END
  ELSE BEGIN p := ABS(b); q := ABS(a) END;
  WHILE (q > dp) DO
    BEGIN
      r := (q/p) * (q/p);
      s := r / (4.0 + r);
      p := p + (s * p) + (s * p);
      q := s * q;
    END;
  PythagSum := p;
END;
```