area(…)

area(…)

S = new Triangle( ); S = new Rectangle( );

s.area(…); S s.area(…);

Shape

Upcasting downcasting

downcasting upcasting

Triangle Rectangle

S = new Triangle( ) // subtype to supertype is called upcasting (implicitly)

i.e., up the inheritance hierarchy

Triangle t = (Triangle)s; // supertype to subtype is downcasting (explicitly)

i.e., down the inheritance hierarchy

Int x = 100;

Long y = x; // widening (implicit)

Int z = (int)y; // narrowing (explicit)