

## Operators

Table 10-3 lists the operators of the Java language, along with their precedence, operand types, and associativity.

Table 10-3: Java Operators

Prec.	Operator	Operand Type(s)	Assoc.	Operation Performed
1	++	arithmetic	R	pre-or-post increment (unary)
	--	arithmetic	R	pre-or-post decrement (unary)
	+, -	arithmetic	R	unary plus, unary minus
	~	integral	R	bitwise complement (unary)
	!	boolean	R	logical complement (unary)

Prec.	Operator	Operand Type(s)	Assoc.	Operation Performed
2	(type)	any	R	cast
	*, /, %	arithmetic	L	multiplication, division, remainder
3	+, -	arithmetic	L	addition, subtraction
	+	String	L	string concatenation
4	<<	integral	L	left shift
	>>	integral	L	right shift with sign extension
	>>>	integral	L	right shift with zero extension
5	<, <=	arithmetic	L	less than, less than or equal
	>, >=	arithmetic	L	greater than, greater than or equal
6	instanceof	object, type	L	type comparison
	==	primitive	L	equal (have identical values)
	!=	primitive	L	not equal (have different values)
	==	object	L	equal (refer to same object)
7	!=	object	L	not equal (refer to different objects)
	&	integral	L	bitwise AND
8	&	boolean	L	boolean AND
	^	integral	L	bitwise XOR
9	^	boolean	L	boolean XOR
		integral	L	bitwise OR
10		boolean	L	boolean OR
	&&	boolean	L	conditional AND
11		boolean	L	conditional OR
12	?:	boolean, any, any	R	conditional (ternary) operator
13	=	variable, any	R	assignment
	*=, /=, %=,	variable, any	R	assignment with operation
	+=, -=,			
	<<=, >>=,			
	>>>=,			
	&=, ^=,			
	=,			