2. What sequence of operations would be used to calculate (7 + 1) · (8 − 3) on a normal (infix

notation) calculator? How about on a RPN (postfix) calculator?

Normal(infix) calculator uses: (7 + 1) \* (8 - 3)

RPN(postfix) calculator, it uses: 7 1 + 8 3 - \*

6. What are the advantages and disadvantages of typed arithmetic calculations?

Advantages:

Disadvantages:

8. Which of the following are illegal and why?

• bipush 7

• bipush -7

• sipush 7

• ldc -7

• ldc2 -7

• bipush 200 🡨 illegal because bipush pushes a 1-byte signed integer that range between -128 to 127

• ldc 3.5

• sipush -300

• sipush -300.0 🡨 illegal because sipush pushes a 2-byte signed integer.

• ldc 42.15

12. In the ?div instruction, is the number divided by stored at the top of the stack or is it the

second element?

First 2 elements will each involve 2 stack location and the top of the stack.

13. The surface area of a sphere is four times the area of a circle of equivalent radius. Write a

postfix expression to calculate the surface area of a hemispherical dome of radius *R*.

Infix: 4 \* π \* R^2

Postfix: R R \* π \* 4 \*

14. Write a postfix expression for the arithmetic mean of the five numbers *a*, *b*, *c*, *d*, and *e*.

a b + c d + + e + 5 /