

Exercise 3

1. Circle the valid variable names (identifiers).

- (a) M (b) R2D2 (c) 200X (d) Minimum (e) max (f) int
(g) total sum (h) \$sss (i) O-N-T (j) sum_average (k) 405000 (l) #100Y
(m) LongIntegerValue (n) k/19 (o) Large! (p) mark.2 (q) float

2. Identify the valid assignment statements.

- (a) $x = x + 2;$ (b) $y := -900;$ (c) $c = 7890;$ (d) $x \rightarrow 2143;$
(e) $z = 1 / z;$ (f) $s = s \% 10;$ (g) $n = n - 1;$ (h) $x = -x;$
(i) $\text{cost} + \text{profit} = \text{gross};$ (j) $\text{mark} = 10 * \text{quiz};$ (k) $a = 2b;$ (l) $a^2 + b^2 = c^2;$

3. Write Java statements for the following mathematical expressions.

- (a) $(a + b)(c - d)$ (b) $(m - n) \div 2$ (c) $2x - b(c + d)$ (d) $xyz - m \div n \% p$
(e) $1 + 3a \div 2(b - c)$ (f) $x^2 - y^2$ (g) $\sqrt{(x1 - x2)^2}$

4. Translate each expression into a Java statement.

- (a) Perimeter of a rectangle equals twice the sum of its length and width.
(b) Circumference of circle equals $2 \times \pi \times$ radius.
(c) Area of circle equals $\pi \times$ radius squared.
(d) Area of triangle equals half base times height.
(e) $\text{gst} = 7\%$ of sales price.

5. State the output of the program. Pay special attention to the last two output.

```
class Exercise3_1 {
    public static void main(String str[ ]) {
        int a = 250, b = 100;
        System.out.println("a = " + a + " b = " + b);
        System.out.println("a + b = " + ( a + b ));
        System.out.println("a - b = " + ( a - b ));
        System.out.println("a * b = " + ( a * b ));
        System.out.println("a / b = " + ( a / b ));
        System.out.println("a % b = " + ( a % b ));
        System.out.println("a + b = " + a + b );
        System.out.println("a" + " b" );
    } // main
} // end class
```