

1. Here is a program segment to find the quantity  $\text{base}^{\text{exp}}$ . Both `base` and `exp` are entered at the keyboard.

```
System.out.println("Enter base and exponent: ");
double base = IO.readDouble(); // read user input
double exp = IO.readDouble(); // read user input

/* code to find power , which equals baseexp */

System.out.print(base + " raised to the power " + exp);
System.out.println(" equals " + power);
```

Which code is a correct replacement for `/* code to find power , which equals baseexp */`?

I.  
`double power = 0.0;`  
`Math m = new Math();`  
`power = m.pow(base, exp);`

II.  
`double power = 0.0;`  
`power = Math.pow(base, exp);`

III.  
`int power = 0;`  
`power = Math.pow(base, exp);`

- a. I only
- b. II only
- c. III only
- d. I and II only
- e. I and III only

2. If `a`, `b`, `c`, and `m` are `int` variables, which of the following best describes the behavior of a program with the following statement?

```
m = Math.min(Math.min(a, c), Math.min(b, c));
```

- a. The statement has a syntax error and will not compile.
- b. The program will run but go into an infinite loop.
- c. `a` will get the smaller value of `a` and `c`; `b` will get the smaller value of `b` and `c`; `m` will get the smallest value of `a`, `b`, and `c`.
- d. `m` will be assigned the smallest of the values `a`, `b`, and `c`.
- e. None of the above.

3. Here are some examples of negative numbers rounded to the nearest integer.

<u>Negative real number</u>	<u>Rounded to nearest integer</u>
-3.5	-4
-8.97	-9
-5.0	-5
-2.487	-2
-0.2	0

Refer to the declaration statement `double d = -4.67;`

Which of the following correctly rounds `d` to the nearest integer?

- a. `int rounded = Math.abs(d);`
- b. `int rounded = (int) (Math.random() * d);`
- c. `int rounded = (int) (d - 0.5);`
- d. `int rounded = (int) (d + 0.5);`
- e. `int rounded = Math.abs((int) (d - 0.5));`