## Using the R Console As a Scratch Pad

Open the  ${\bf R}$  Console, just as we did in class, perform the following arithmetic operations and function evaluations, and save the file as scratch1.

| Function/Operator        | Brief Description   |
|--------------------------|---|
| +, *, -, /, ^            | Addition, Multiplication, Subtraction, Division, Exponentiation |
| %%                       | Remainder   |
| %/%                      | Integer Division  |
| $\operatorname{sqrt}(x)$ | Square Root $\sqrt{x}$  |
| log(a), log(a,b)         | Logarithmic Functions: $ln(a)$ , $log_b(a)$                     |
| $\exp(x)$                | Exponential Operator  |
| $\sin(x)$                | sine function   |
| $\cos(x)$                | cosine function   |
| tan(x)                   | tangent function  |
| pi                       | $\pi$   |

1. 
$$10^2 + \frac{3 \times 60}{8} - 3$$

$$2. \ \frac{5^3 \times (6-2)}{61-3+4}$$

3. 
$$2^{2+1} - 4 + 64^{-2^{2 \cdot 25 - \frac{1}{4}}}$$

4. 
$$\left(\frac{0.44 \times (1 - 0.44)}{34}\right)^{\frac{1}{2}}$$

5. The integer part of  $\sqrt{5423978071}$ 

6. 
$$\sin(-\pi/6)$$

7. 
$$\cos(\pi/2)$$

8. 
$$\tan(-\pi/2)$$

9. 
$$1 - 2 + \frac{1}{2}2^2 - \frac{1}{6}2^3 + \frac{1}{24}2^4 - \frac{1}{120}2^5$$

10. 
$$\frac{24}{2 + \frac{5}{3 + \frac{4}{4 - \frac{1}{1 - \frac{1}{2}}}}}$$