BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE

MTH 28.5 Review Sheet I

---

1. Perform the indicated operations and simplify:

(a) $(-7)-(-4)$ (b) $(-7)+14$ (c) $8\div 0$ (d) $0\div 2$ (e) $24\div(-3)$

(f) $5(-7)$ (g) -2^4 (h) $(-2)^4$ (i) $\dfrac{-12}{-4}$ (j) $\left(\dfrac{2}{5}\right)\left(-\dfrac{1}{4}\right)$

(k) $2-\dfrac{1}{5}$ (l) $\dfrac{1}{3}\div(-2)$ (m) $\left(-3\dfrac{5}{6}\right)\left(1\dfrac{3}{4}\right)$ (n) $-2\dfrac{3}{4}+1\dfrac{2}{3}$

2. Perform the indicated operations and simplify:

(a) $(-7)(-6)(-3)$ (b) $2^3-3^2+(3)(4)$ (c) $5-3-[2-(-3+5)]$ (d) $16-7-9+11$

(e) $5\cdot 2^3-3$ (f) $3-2[1-(2-9)]$ (g) $\dfrac{-3+5}{-5+4}-3+6$ (h) $\dfrac{3}{4}(17-3\cdot 3)$

3. Evaluate:

(a) $C=\dfrac{5}{9}(F-32)$, if $F=50$.

(b) $3a+bx-cy$, if $a=-2$, $b=3$, $c=-4$, $x=1$, $y=0$.

(c) $5a+x^2-by$, if $a=-2$, $b=4$, $x=16$, $y=-6$.

(d) $-x^2-2x-5$, if $x=\dfrac{1}{2}$.

4. Solve:

(a) $11+3x=26$ (b) $5x-3=3x+3$ (c) $x-4+2x=5x-1-2x$

(d) $\dfrac{x+2}{5}-\dfrac{x+3}{4}=\dfrac{5}{2}$ (e) $3(2x-1)-(7x+1)=3(3x-4)$

5. Solve for the indicated variable:

(a) $C = \frac{5}{9}(F - 32)$, for F (b) $z = 5x - 7y$, for x (c) $3x - 2y = 7$, for y

6. Solve the inequality and graph the solution set :

(a) $2x + 1 \leq 4x - 3$ (b) $3x - 2 > x$ (c) $2x - (3x + 5) > 4x - 2(3x - 2)$

7. Sketch the graph of the linear equation:

(a) $3x + 2y = 6$ (b) $y = 2x - 3$ (c) $x = 3$

8. Function f is given by $f(x) = 7x - 8$. Find

(a) $f(3)$ (b) $f(a + 5)$ (c) $f(3t)$

9. Function f is given by $f(x) = 3x^2 - 5x + 3$. Find

(a) $f(1)$ (b) $f(3)$ (c) $f(-2)$

10. Perform the indicated operations :

(a) $(3x^2 - 2x + 3) + (-2x^2 + 3x - 7)$ (b) $2x^2 - 4x + 5 - (3x^2 - 11x + 6)$ (c) $\left(4a^2b^3\right)^2$

(d) $\left(3x^2y^5\right)\left(5xy^3 - 3x^2y^2 + 2x^3y^2\right)$ (e) $(x^2 - 3x + 2)(2x^2 - 3x + 7)$ (f) $\frac{20x^5y^7}{4x^2y^7}$

(g) $(3x^3 - 2x^2 + 4x - 6) \div (x - 5)$ (h) $\frac{24a^5b^4 + 16a^7b^3 - 8a^3b^2}{8a^3b^2}$ (i) $\frac{3ab^{-1} \cdot 5a^3b^2}{(3a^3b)^2}$

11. Simplify and write the answer in decimal form.

(a) 3.5×10^{-3} (b) $(2 \times 10^3)(6 \times 10^{-1})$ (c) $\frac{2 \times 10^3}{5 \times 10^6}$

The answers

1(a) -3 **1(b)** 7 **1(c)** *undefined* **1(d)** 0 **1(e)** -8

1(f) -35 **1(g)** -16 **1(h)** 16 **1(i)** 3 **1(j)** $\frac{-1}{10}$

1(k) $\frac{9}{5}$ **1(l)** $\frac{-1}{6}$ **1(m)** $\frac{-161}{24}$ **1(n)** $\frac{-13}{2}$

2(a) -126 **2(b)** 11 **2(c)** 2 **2(d)** 11

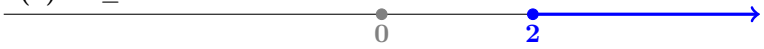
2(e) 37 **2(f)** -13 **2(g)** 1 **2(h)** 6

3(a) $C = 10$ **3(b)** -3 **3(c)** 270 **3(d)** $\frac{-25}{4}$

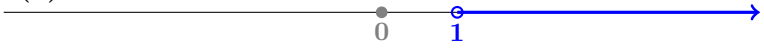
4(a) $x = 5$ **4(b)** $x = 3$ **4(c)** *No solutions* **4(d)** $x = -57$ **4(e)** $x = \frac{4}{5}$

5(a) $F = \frac{9}{5}C + 32$ **5(b)** $x = \frac{z + 7y}{5}$ **5(c)** $y = \frac{3x - 7}{2}$

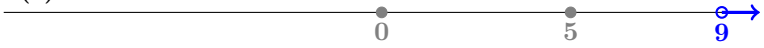
6(a) $x \geq 2$



6(b) $x > 1$



6(c) $x > 9$



7(a), 7(b), 7(c) next page

8(a) 13 **8(b)** $7a + 27$ **8(c)** $21t - 8$

9(a) 1 **9(b)** 15 **9(c)** 25

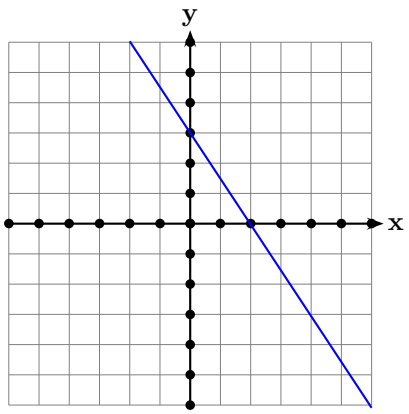
10(a) $x^2 + x - 4$ **10(b)** $-x^2 + 7x - 1$ **10(c)** $16a^4b^6$

10(d) $15x^3y^8 - 9x^4y^7 + 6x^5y^7$ **10(e)** $2x^4 - 9x^3 + 20x^2 - 27x + 14$ **10(f)** $5x^3$

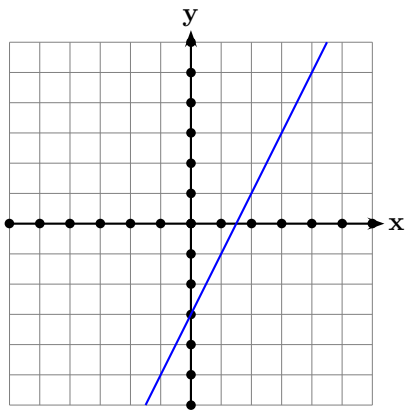
10(g) $3x^2 + 13x + 69 + \frac{339}{x - 5}$ **10(h)** $3a^2b^2 + 2a^4b - 1$ **10(i)** $\frac{5}{3a^2b}$

11(a) 0.0035 **11(b)** 1200 **11(c)** 0.0004

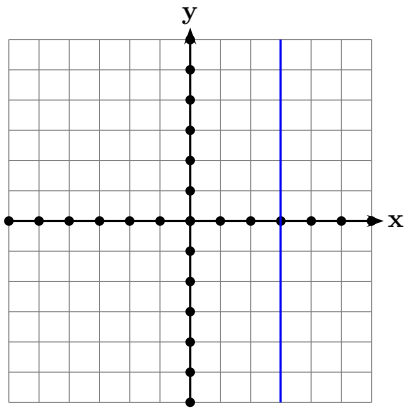
6/2022 YH, IP



7(a) 3x+2y=6



7(b) y=2x-3



7(c) x=3

Figure 1: The graphs of Question 7