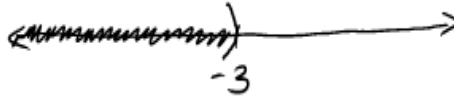
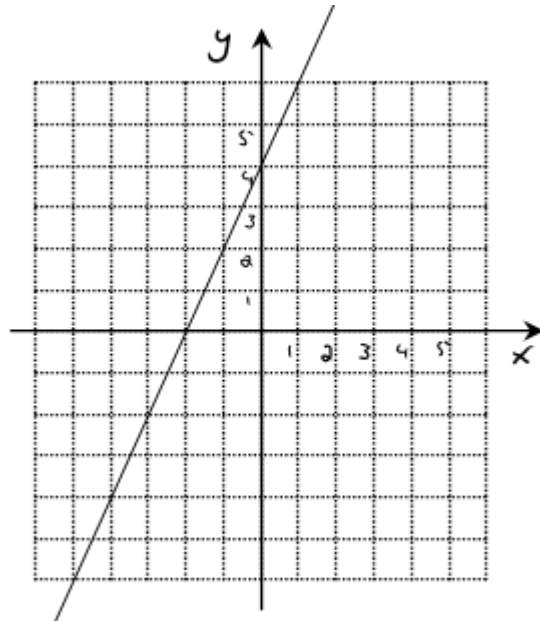


## Math 172 Practice Final Answers

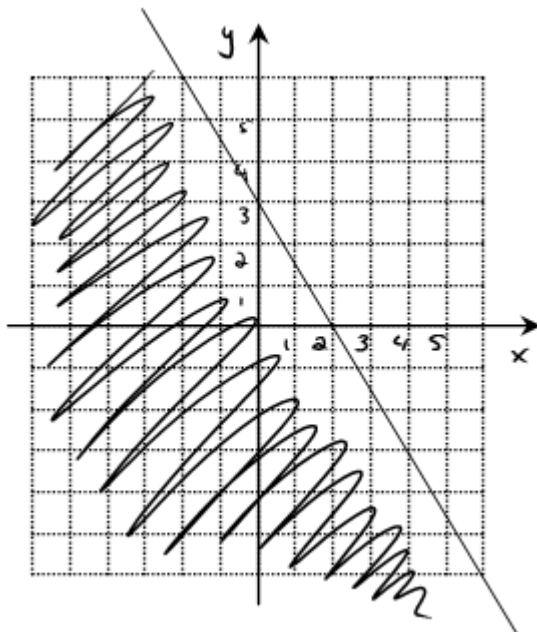
1.  $\{1,3,5\}$
2.  $\left\{\frac{5}{2}, 0.025, 0.3, 2.131313\dots\right\}$
3.  $-10$
4.  $-16$
5. False
6.  $-1/2$
7.  $\emptyset$
8.  $\{-12\}$
9.  $w = \frac{xz}{x-z}$  or  $\frac{-xz}{z-x}$
10.  $(-\infty, -3)$



11.  $m = \frac{3}{2}$
- 12.



13. intercepts are  $(-2,0)$  and  $(0, \frac{8}{3})$
- 14.



15.  $y = \frac{1}{2}x - 6$
16.  $\frac{64a^{14}}{b^7}$
17.  $\frac{xy}{x+y}$
18.  $3$
19.  $2 \times 10^{-7}$
20.  $13 - 7x - 2x^2$
21.  $6x^2 + 8x - 30$

22.  $\{x \mid x \neq 2 \text{ and } x \neq -2\}$  or  $(-\infty, -2) \cup (-2, 2) \cup (2, \infty)$
23.  $3x^2 - 13x + 56 - \frac{225}{x+4}$
24. a)  $(5x+3)(x+2)$   
 b)  $4x(x+2y)(x^2 - 2xy + 4y^2)$   
 c)  $(t-2)(t+2)(t-3)(t+3)$
25.  $-5$
26.  $\frac{21a^2}{2b^2c^7}$
27.  $\frac{3y^2 + x - 2}{xy^2}$
28.  $\frac{2x-3}{4(2x-1)}$
29.  $\frac{-x^2 - 3x + 1}{(x+1)(x+6)}$  or  $-\frac{(x^2 + 3x - 1)}{(x+1)(x+6)}$
30.  $\frac{2x+1}{2x^2 + 3x - 3}$
31.  $\{8\}$
32.  $\frac{64}{27}$
33.  $2x^3y\sqrt[4]{5y^3}$
34.  $\frac{b}{2}\sqrt[5]{648a^3b}$ , though leaving your answer as  $\frac{b}{2}\sqrt[5]{2^33^4a^3b}$  is also acceptable
35.  $2\sqrt{6} + 7$
36.  $x\sqrt{5x} + 2x\sqrt{2}$
37.  $\frac{\sqrt{2} - \sqrt{6}}{4}$  or  $-\frac{(\sqrt{6} - \sqrt{2})}{4}$
38.  $m = 2 + 2\sqrt[3]{2}$
39.  $\frac{4+7i}{13}$
40.  $\{-18, -9\}$
41.  $w = -\frac{2}{3} \pm \frac{\sqrt{5}}{3}$
42.  $\left\{-1, \frac{3}{2}\right\}$
43.  $v = \frac{-1 \pm i\sqrt{23}}{2}$
44. no real solutions
45.  $\{(1, -2)\}$
46. Darrell's speed while cycling is 15 km/h.
47. The two numbers are  $4 - \sqrt{14}$  and  $4 + \sqrt{14}$ .
48. Eight litres of 6% solution are needed.
49. Dorothy invested \$2000, \$1000, and \$4000 at 5%, 8%, and 10%, respectively.