

## Graphing Utilities

### A.2 Using a Graphing Utility to Graph Equations

1. (a)  $y = x + 2$

$X_{\min} = -5$

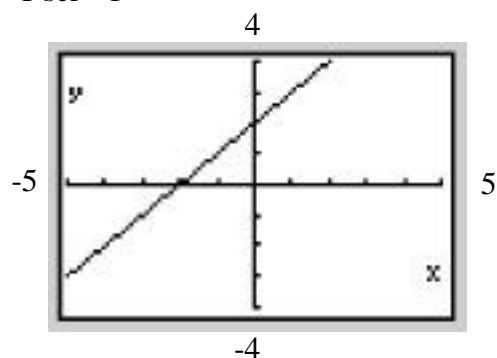
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

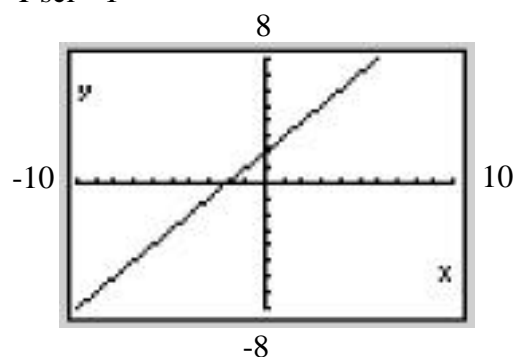
$X_{\max} = 10$

$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

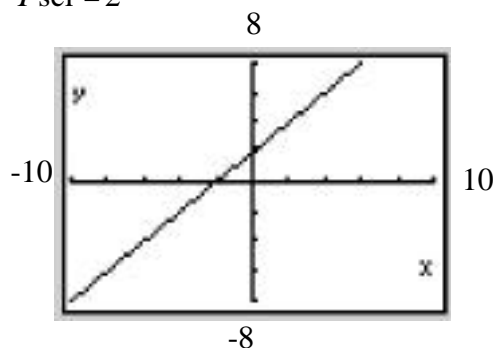
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$X_{\text{scl}} = 2$

$Y_{\min} = -8$

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$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

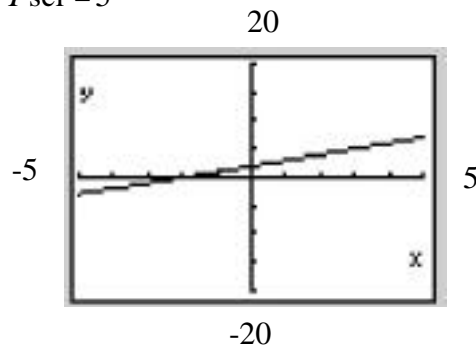
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



## Section A.2 Using a Graphing Utility to Graph Equations

2. (a)  $y = x - 2$

$X_{\min} = -5$

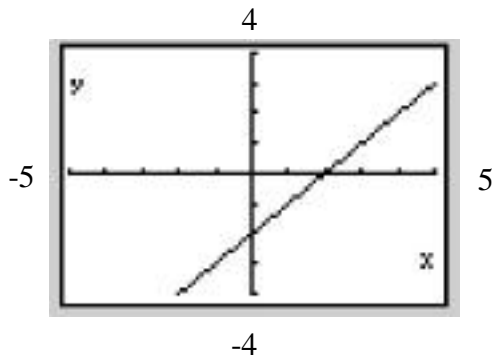
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$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

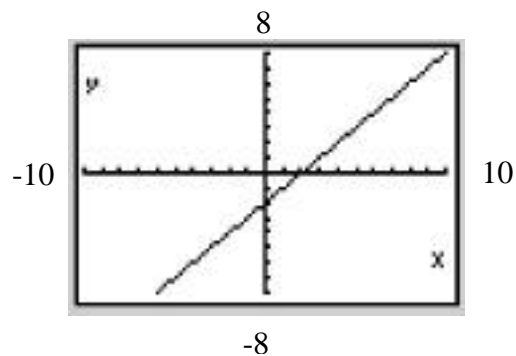
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$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

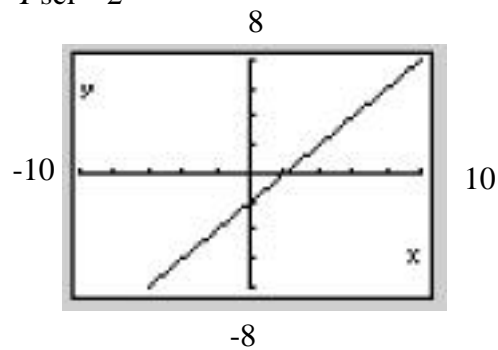
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$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

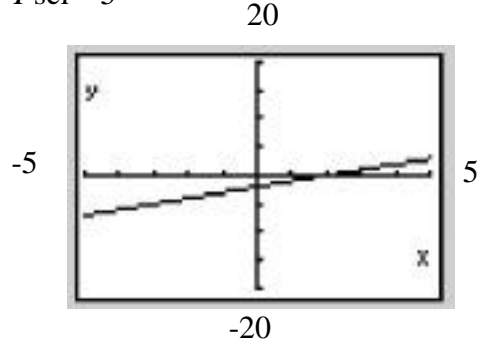
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$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



3. (a)  $y = -x + 2$

$X_{\min} = -5$

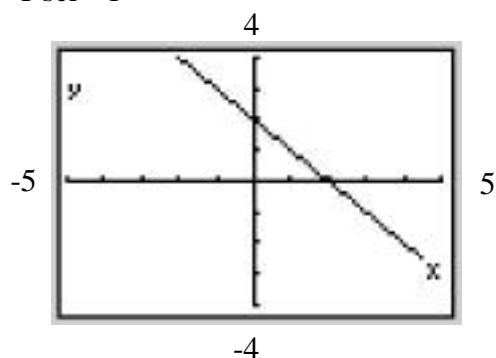
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$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

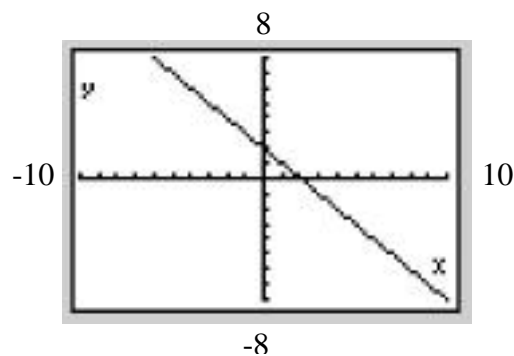
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$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

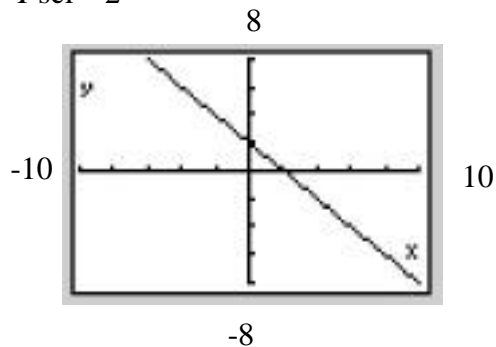
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$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

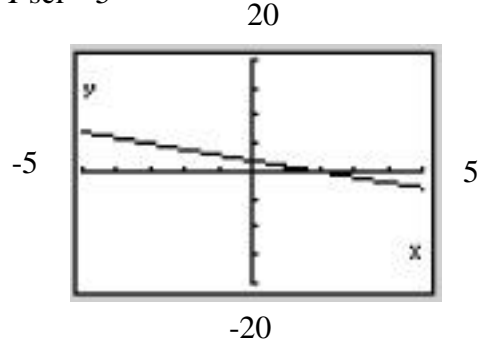
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$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



## Section A.2 Using a Graphing Utility to Graph Equations

4. (a)  $y = -x - 2$

$X_{\min} = -5$

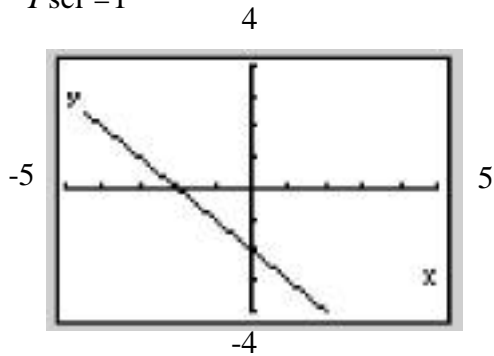
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$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

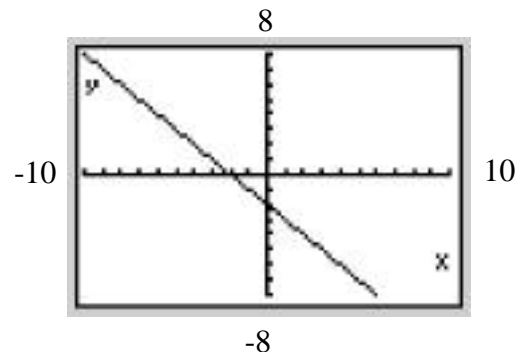
$X_{\max} = 10$

$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

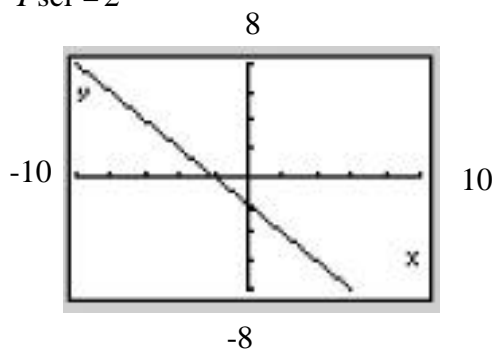
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

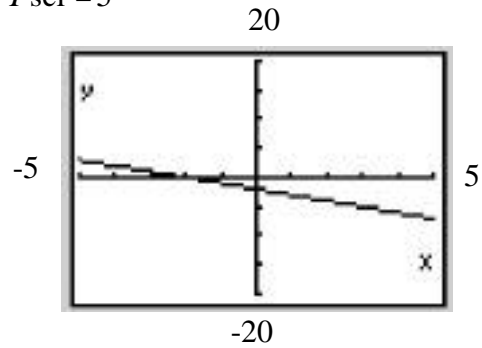
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$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



5. (a)  $y = 2x + 2$ 

$$X \min = -5$$

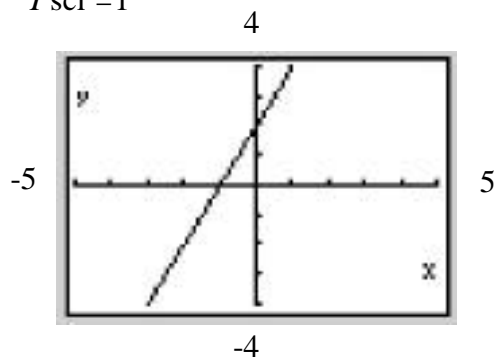
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$$X \text{ scl} = 1$$

$$Y \min = -4$$

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$$Y \text{ scl} = 1$$



(b)

$$X \min = -10$$

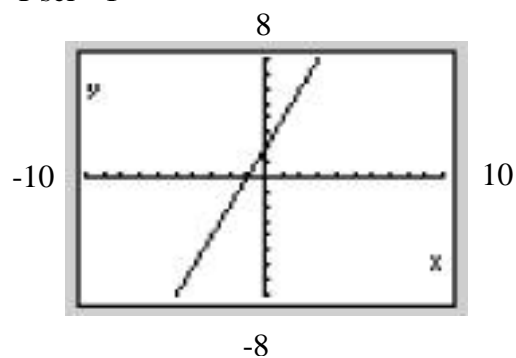
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$$X \text{ scl} = 1$$

$$Y \min = -8$$

$$Y \max = 8$$

$$Y \text{ scl} = 1$$



(c)

$$X \min = -10$$

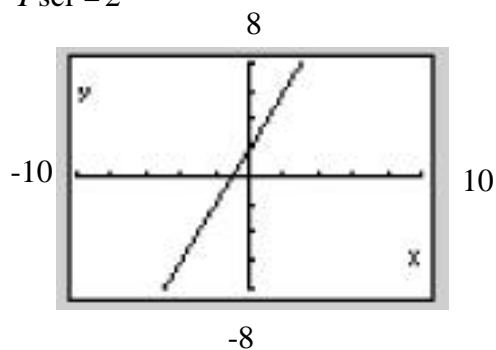
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$$X \text{ scl} = 2$$

$$Y \min = -8$$

$$Y \max = 8$$

$$Y \text{ scl} = 2$$



(d)

$$X \min = -5$$

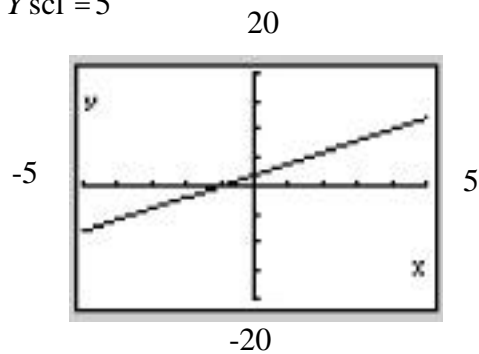
$$X \max = 5$$

$$X \text{ scl} = 1$$

$$Y \min = -20$$

$$Y \max = 20$$

$$Y \text{ scl} = 5$$



## Section A.2 Using a Graphing Utility to Graph Equations

6. (a)  $y = 2x - 2$

$X_{\min} = -5$

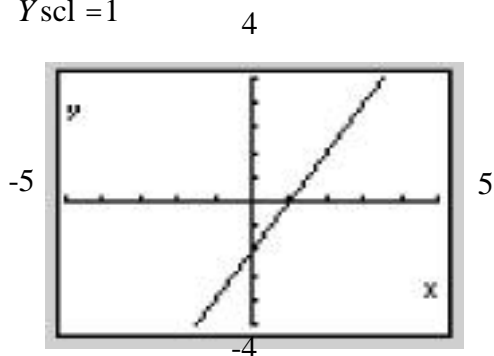
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

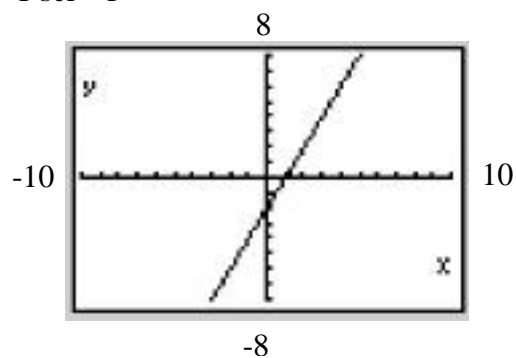
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$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

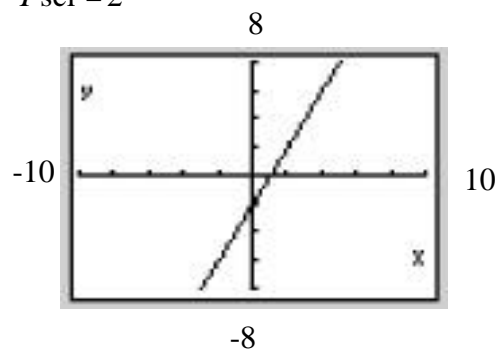
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

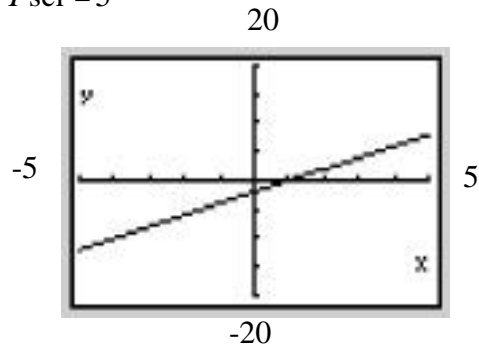
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



7. (a)  $y = -2x + 2$

$X_{\min} = -5$

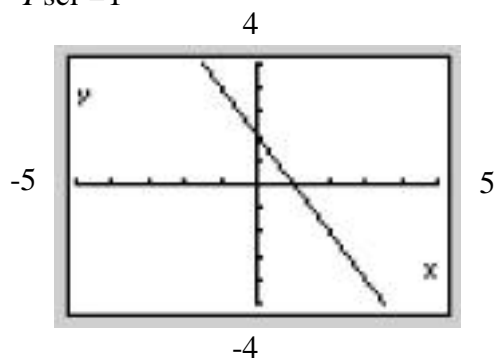
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

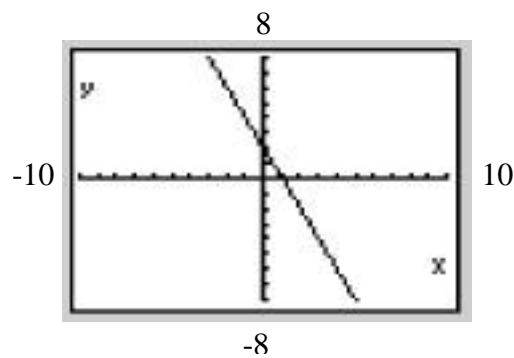
$X_{\max} = 10$

$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

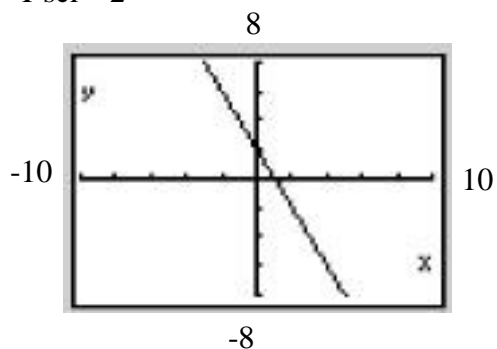
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

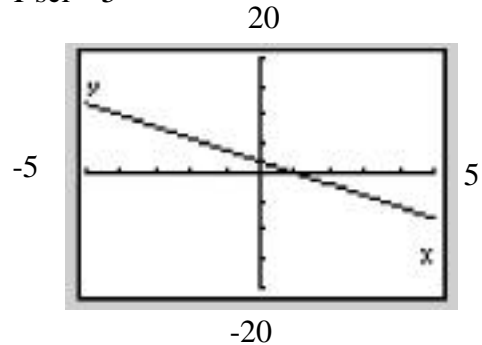
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



# Section A.2 Using a Graphing Utility to Graph Equations

8. (a)  $y = -2x - 2$

$X_{\min} = -5$

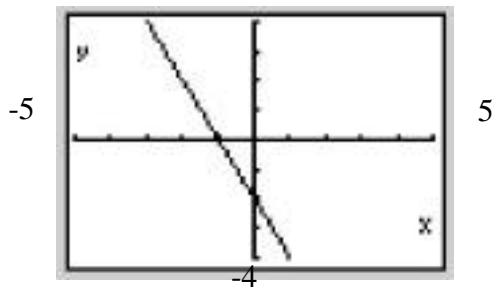
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$  4



(b)

$X_{\min} = -10$

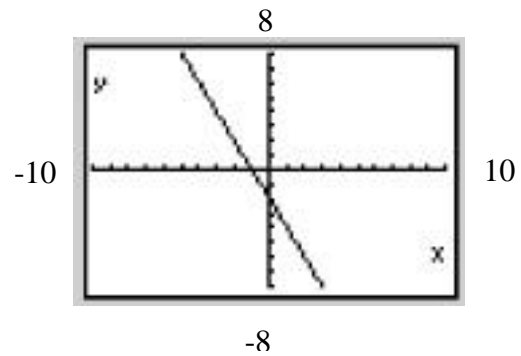
$X_{\max} = 10$

$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

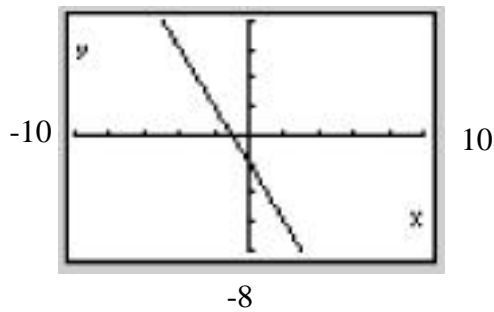
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$  8



(d)

$X_{\min} = -5$

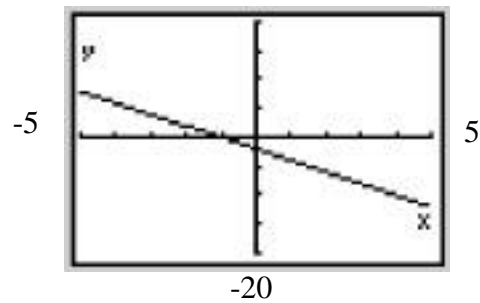
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$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$  20





9. (a)  $y = x^2 + 2$

$X \min = -5$

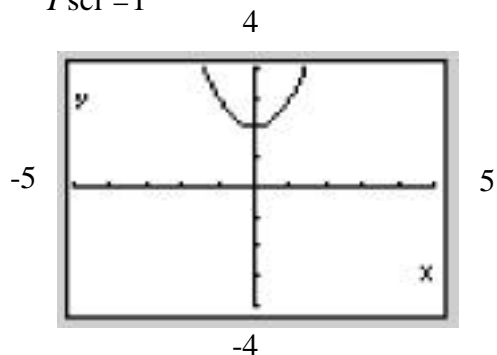
$X \max = 5$

$X \text{ scl} = 1$

$Y \min = -4$

$Y \max = 4$

$Y \text{ scl} = 1$



(b)

$X \min = -10$

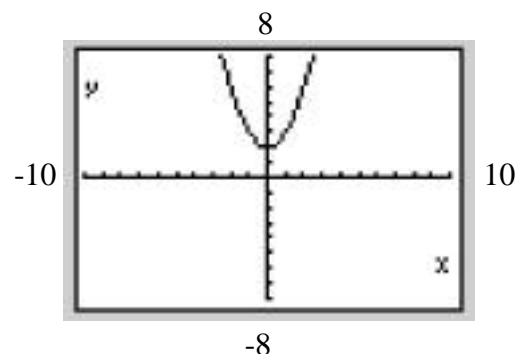
$X \max = 10$

$X \text{ scl} = 1$

$Y \min = -8$

$Y \max = 8$

$Y \text{ scl} = 1$



(c)

$X \min = -10$

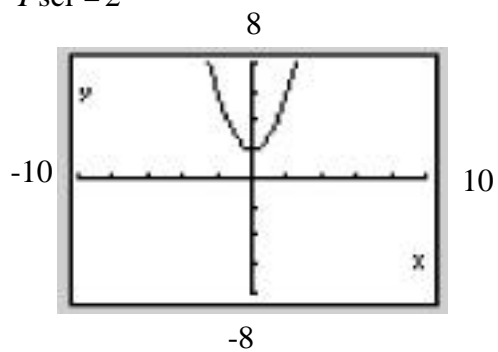
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$X \text{ scl} = 2$

$Y \min = -8$

$Y \max = 8$

$Y \text{ scl} = 2$



(d)

$X \min = -5$

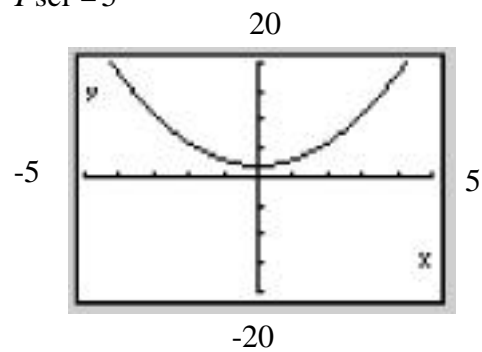
$X \max = 5$

$X \text{ scl} = 1$

$Y \min = -20$

$Y \max = 20$

$Y \text{ scl} = 5$



## Section A.2 Using a Graphing Utility to Graph Equations

10. (a)  $y = x^2 - 2$

$X_{\min} = -5$

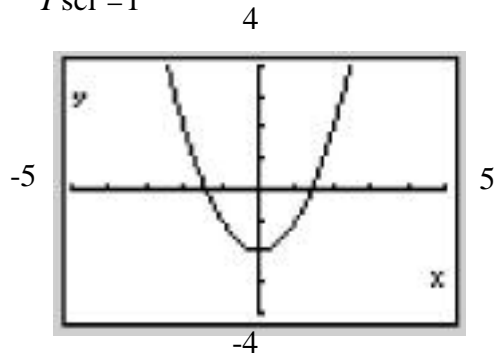
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

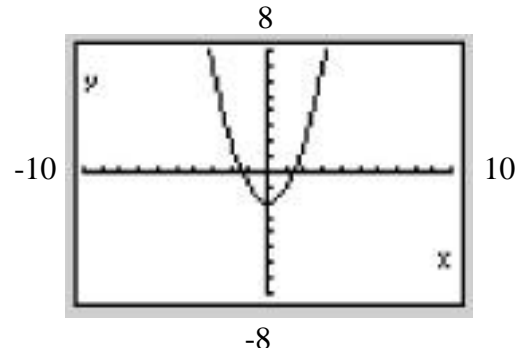
$X_{\max} = 10$

$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

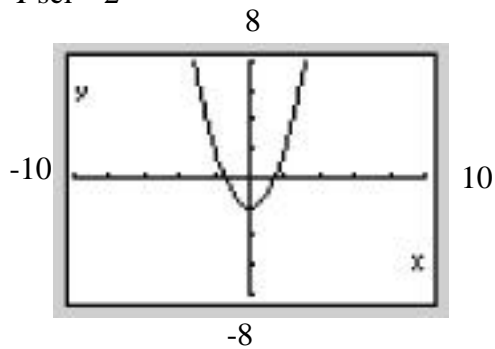
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

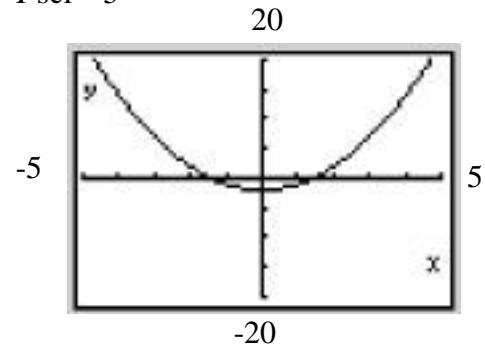
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



11. (a)  $y = -x^2 + 2$

$X_{\min} = -5$

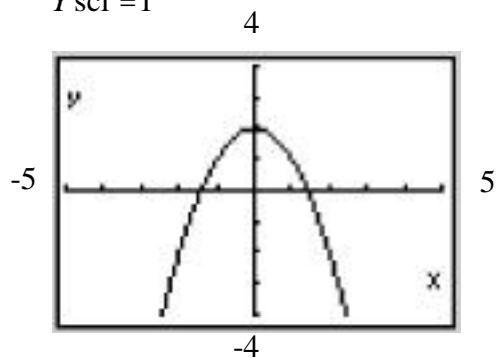
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

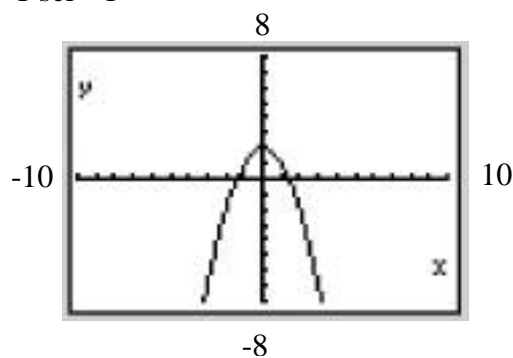
$X_{\max} = 10$

$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

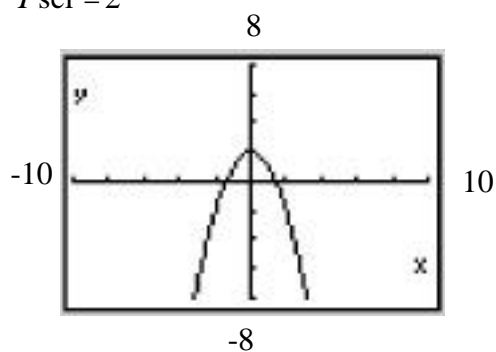
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

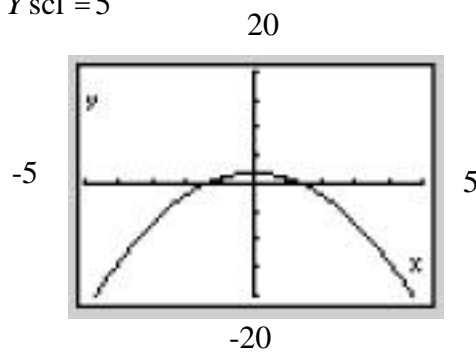
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



# Section A.2 Using a Graphing Utility to Graph Equations

12. (a)  $y = -x^2 - 2$

$X_{\min} = -5$

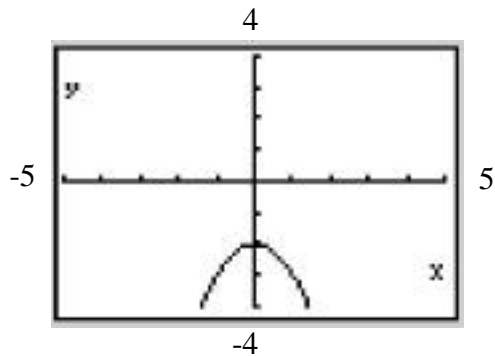
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

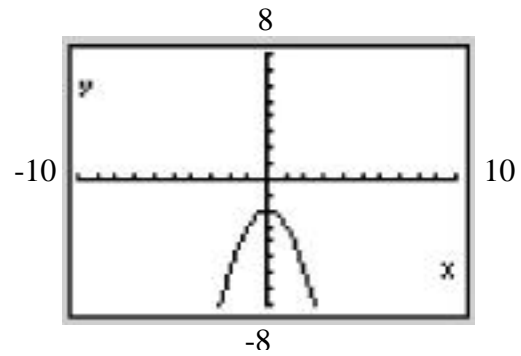
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$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

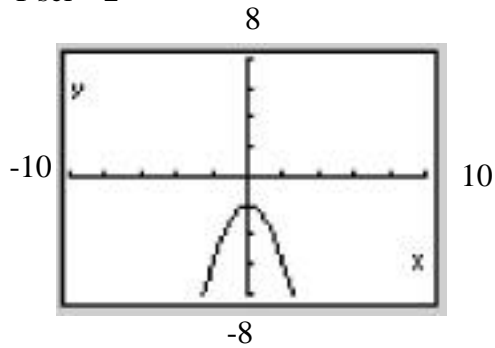
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

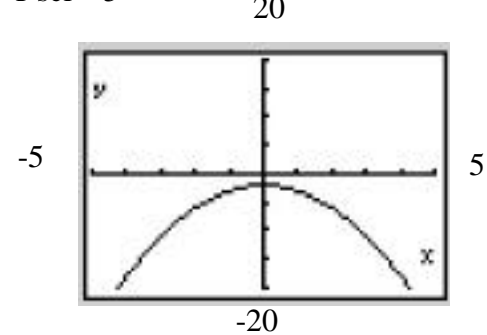
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$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



13. (a)  $3x + 2y = 6$

$X \min = -5$

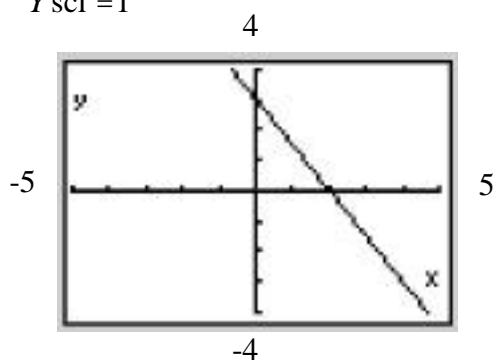
$X \max = 5$

$X \text{ scl} = 1$

$Y \min = -4$

$Y \max = 4$

$Y \text{ scl} = 1$



(b)

$X \min = -10$

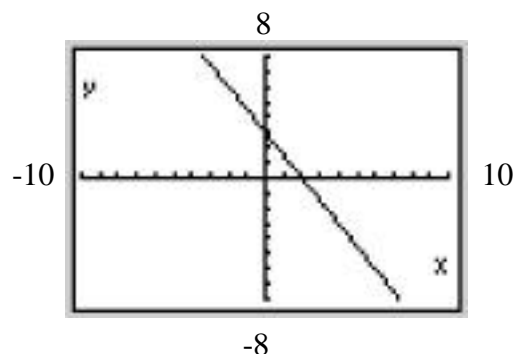
$X \max = 10$

$X \text{ scl} = 1$

$Y \min = -8$

$Y \max = 8$

$Y \text{ scl} = 1$



(c)

$X \min = -10$

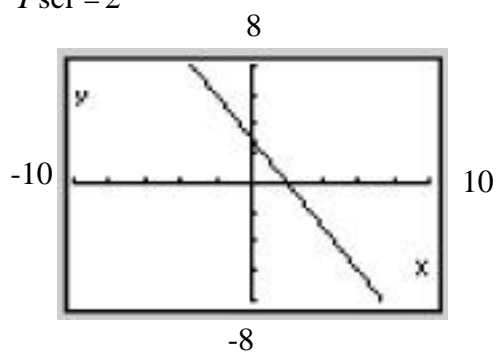
$X \max = 10$

$X \text{ scl} = 2$

$Y \min = -8$

$Y \max = 8$

$Y \text{ scl} = 2$



(d)

$X \min = -5$

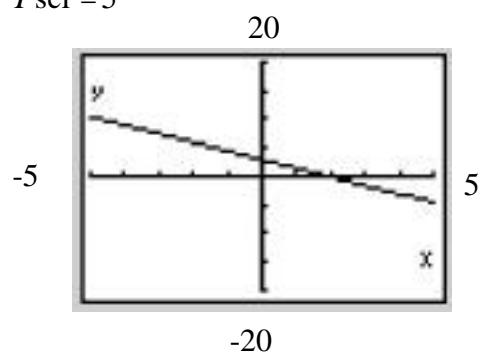
$X \max = 5$

$X \text{ scl} = 1$

$Y \min = -20$

$Y \max = 20$

$Y \text{ scl} = 5$



# Section A.2 Using a Graphing Utility to Graph Equations

14. (a)  $3x - 2y = 6$

$X_{\min} = -5$

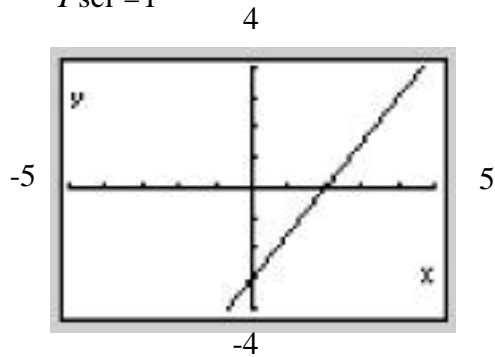
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

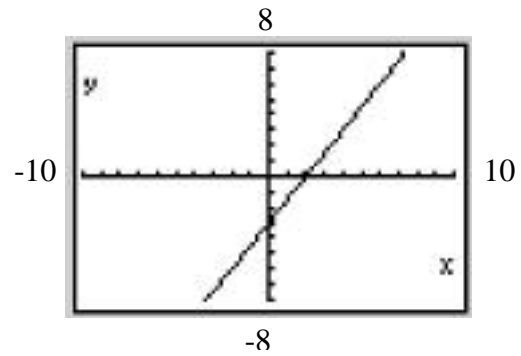
$X_{\max} = 10$

$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

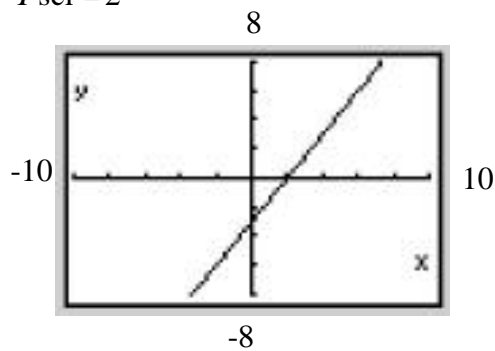
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

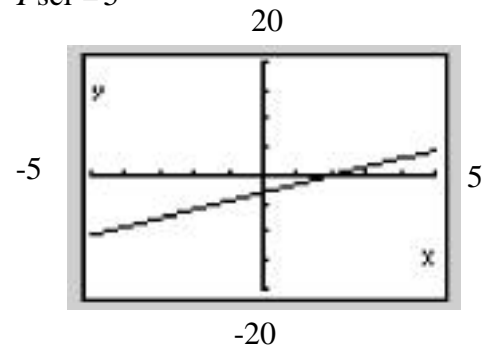
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$



15. (a)  $-3x + 2y = 6$

$X \min = -5$

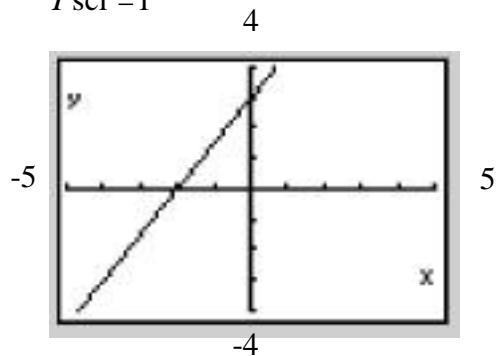
$X \max = 5$

$X \text{ scl} = 1$

$Y \min = -4$

$Y \max = 4$

$Y \text{ scl} = 1$



(b)

$X \min = -10$

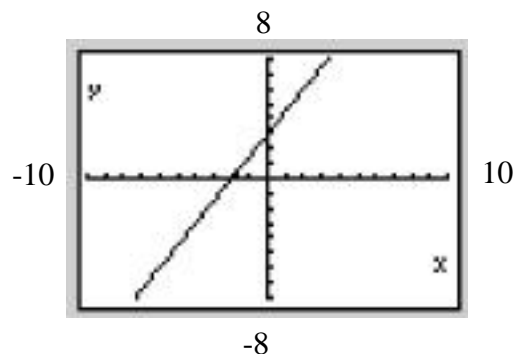
$X \max = 10$

$X \text{ scl} = 1$

$Y \min = -8$

$Y \max = 8$

$Y \text{ scl} = 1$



(c)

$X \min = -10$

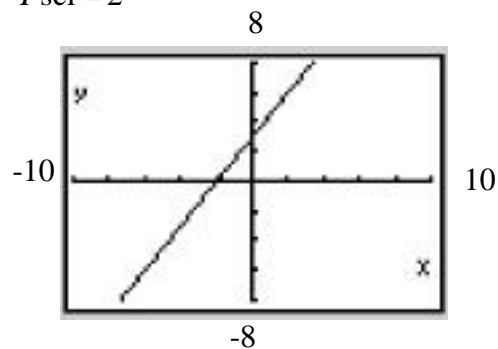
$X \max = 10$

$X \text{ scl} = 2$

$Y \min = -8$

$Y \max = 8$

$Y \text{ scl} = 2$



(d)

$X \min = -5$

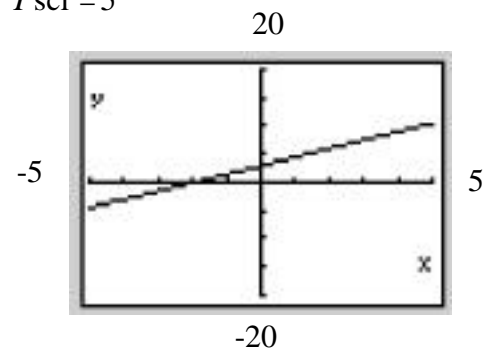
$X \max = 5$

$X \text{ scl} = 1$

$Y \min = -20$

$Y \max = 20$

$Y \text{ scl} = 5$



## Section A.2 Using a Graphing Utility to Graph Equations

16. (a)  $-3x - 2y = 6$

$X_{\min} = -5$

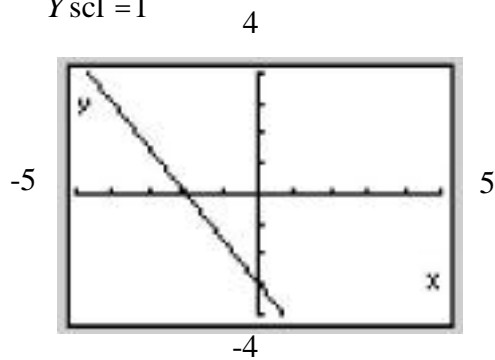
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -4$

$Y_{\max} = 4$

$Y_{\text{scl}} = 1$



(b)

$X_{\min} = -10$

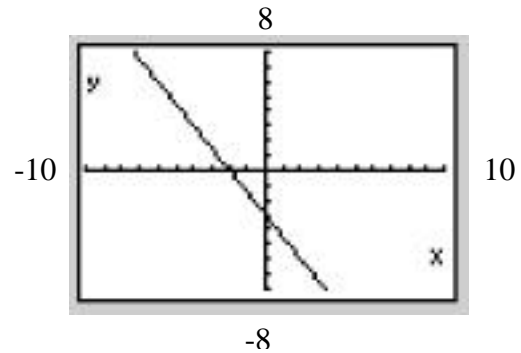
$X_{\max} = 10$

$X_{\text{scl}} = 1$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 1$



(c)

$X_{\min} = -10$

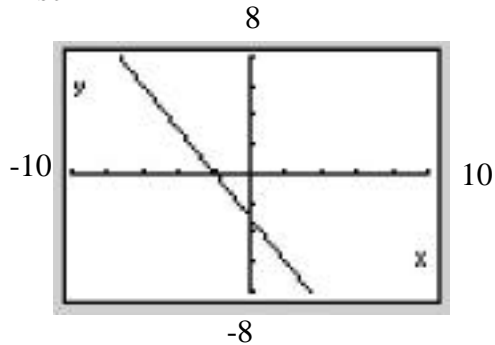
$X_{\max} = 10$

$X_{\text{scl}} = 2$

$Y_{\min} = -8$

$Y_{\max} = 8$

$Y_{\text{scl}} = 2$



(d)

$X_{\min} = -5$

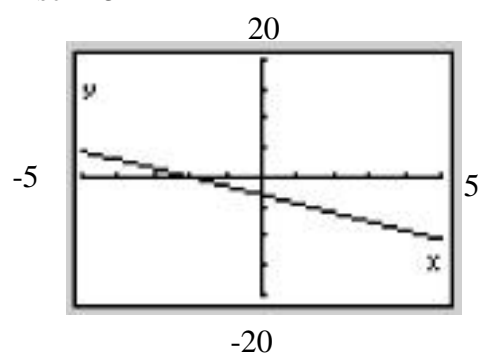
$X_{\max} = 5$

$X_{\text{scl}} = 1$

$Y_{\min} = -20$

$Y_{\max} = 20$

$Y_{\text{scl}} = 5$





17.  $y = x + 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	-1	
-2	0	
-1	1	
0	2	
1	3	
2	4	
3	5	
X=3		

18.  $y = x - 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	-5	
-2	-4	
-1	-3	
0	-2	
1	-1	
2	0	
3	1	
X=3		

19.  $y = -x + 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	5	
-2	4	
-1	3	
0	2	
1	1	
2	0	
3	-1	
X=3		

20.  $y = -x - 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	1	
-2	0	
-1	-1	
0	-2	
1	-3	
2	-4	
3	-5	
X=3		

21.  $y = 2x + 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	-4	
-2	-2	
-1	0	
0	2	
1	4	
2	6	
3	8	
X=3		

22.  $y = 2x - 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	-8	
-2	-6	
-1	-4	
0	-2	
1	0	
2	2	
3	4	
X=3		

23.  $y = -2x + 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	8	
-2	6	
-1	4	
0	2	
1	0	
2	-2	
3	-4	
X=3		

24.  $y = -2x - 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	4	
-2	2	
-1	0	
0	-2	
1	-4	
2	-6	
3	-8	
X=3		

25.  $y = x^2 + 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	11	
-2	6	
-1	3	
0	2	
1	3	
2	6	
3	11	
X=3		

26.  $y = x^2 - 2; -3 \leq x \leq 3$

X	Y <sub>1</sub>	
-3	7	
-2	2	
-1	-1	
0	-2	
1	-1	
2	2	
3	7	
X=3		

# Section A.2 Using a Graphing Utility to Graph Equations

27.  $y = -x^2 + 2$ ;  $-3 \leq x \leq 3$

X	Y1	
-3	-7	
-2	-2	
-1	1	
0	2	
1	1	
2	-2	
3	-7	
X=3		

28.  $y = -x^2 - 2$ ;  $-3 \leq x \leq 3$

X	Y1	
-3	-11	
-2	-6	
-1	-3	
0	-2	
1	-3	
2	-6	
3	-11	
X=3		

29.  $3x + 2y = 6$ ;  $-3 \leq x \leq 3$

X	Y1	
-3	7.5	
-2	6	
-1	4.5	
0	3	
1	1.5	
2	0	
3	-1.5	
X=3		

30.  $3x - 2y = 6$ ;  $-3 \leq x \leq 3$

X	Y1	
-3	-7.5	
-2	-6	
-1	-4.5	
0	-3	
1	-1.5	
2	0	
3	1.5	
X=3		

31.  $-3x + 2y = 6$ ;  $-3 \leq x \leq 3$

X	Y1	
-3	-1.5	
-2	0	
-1	1.5	
0	3	
1	4.5	
2	6	
3	7.5	
X=3		

32.  $-3x - 2y = 6$ ;  $-3 \leq x \leq 3$

X	Y1	
-3	1.5	
-2	0	
-1	-1.5	
0	-3	
1	-4.5	
2	-6	
3	-7.5	
X=3		