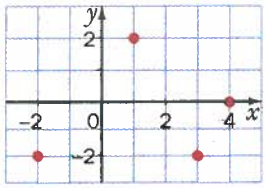
Because a relation is a set of ordered pairs, graphing the ordered pairs is one way to represent the relation.

Example 3 Reading a Graph

For the graph shown,

a) express the relation as a set of ordered pairs

b) write the domain and range



Solution

a) The set of ordered pairs is (–2, –2), (1, 2), (3, –2), (4, 0).

b) The domain is {–2, 1, 3, 4}. The range is {–2, 0, 2}.

Practice

A

Name the point with the given coordinates on the following grid.

1. (3, 1) J

2. (–5, 1) G

3. (2, 3) N

4. (4, –1) H

5. (0, –2) P

6. (5, 2) F

7. (–3, 0) M

8. (1, –5) K

9. (–6, –4) L

10. (–2, 2) A

11. (3, 5) D

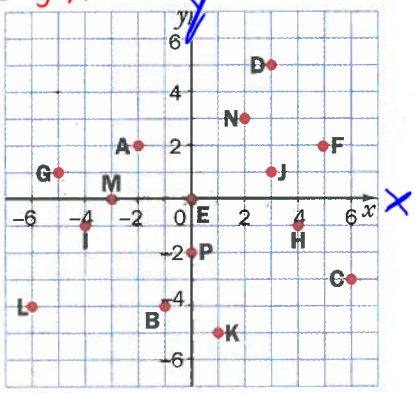
12. (6, –3) C

13. (–1, –4) B

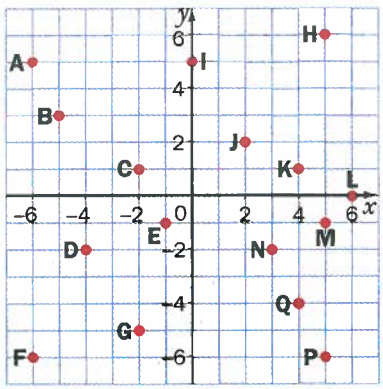
14. (0, 0) E

15. (–4, –1) I

(x, y)



16. Write the coordinates of each point shown on the grid.



Plot each point on a grid.

17. A(3, 5)

18. B(5, 3)

19. C(–3, 5)

20. D(–5, 3)

21. E(3, –5)

22. F(5, –3)

23. G(0, 4)

24. H(4, 0)

25. I(–4, 0)

26. J(0, –4)

27. K(1, 1)

28. L(–1, 1)

29. M(1, –1)

30. N(–1, –1)

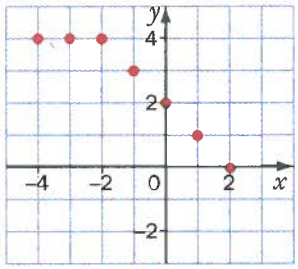
31. O(0, 0)

For each graph,

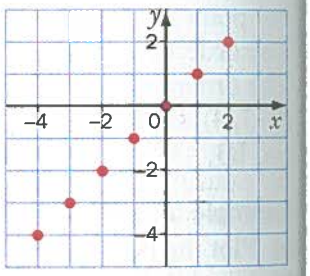
a) *express the relation as a set of ordered pairs*

b) *write the domain and range*

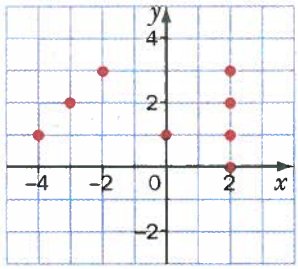
32.



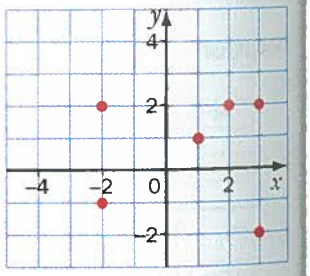
33.



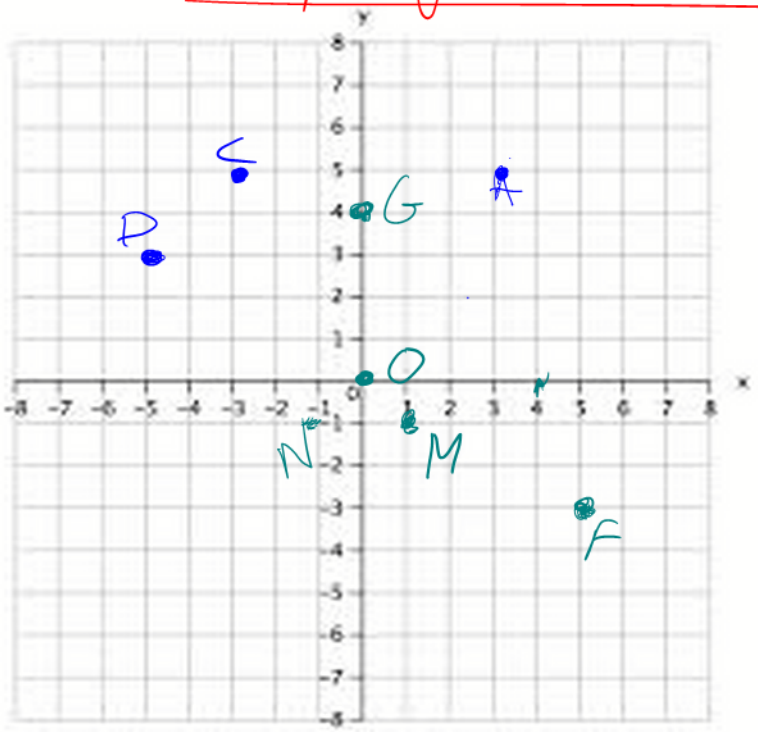
34.



35.

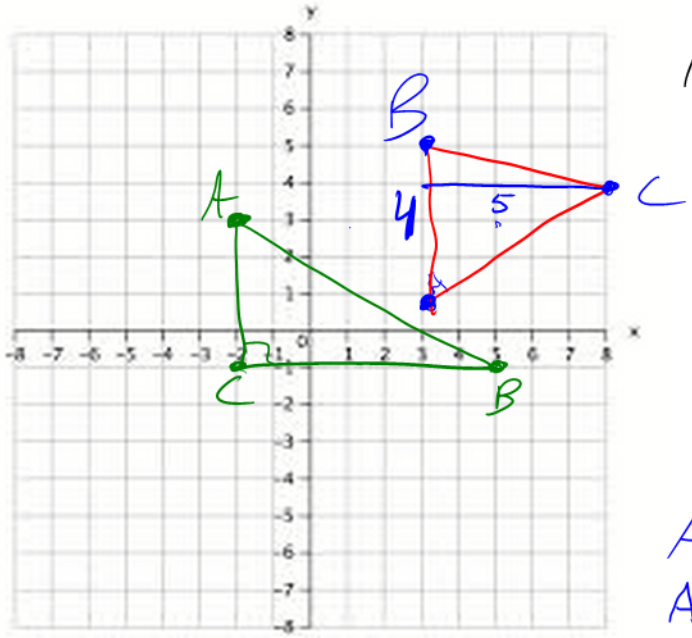


5.2) Graphing Ordered Pairs



#17 → 31

40 a)



A(3,1) B(3,5)
C(8,4)

A triangle.

$A = \frac{bh}{2}$

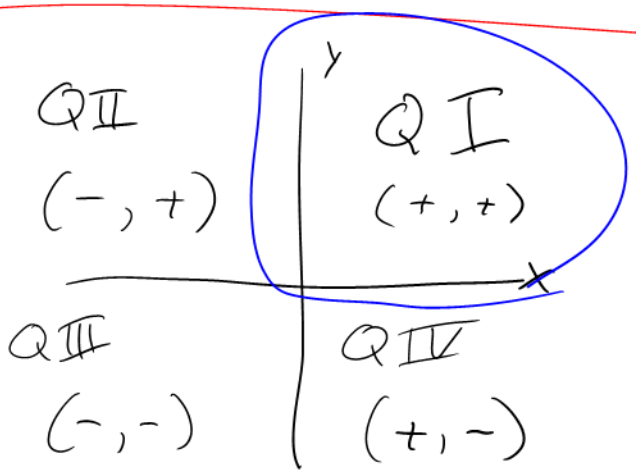
$A = \frac{4(5)}{2}^2$

$A = \frac{20}{2}$

$A = 10 \text{ units}^2$

41. A(-2,3) B(5,-1)
C(-2,-1)

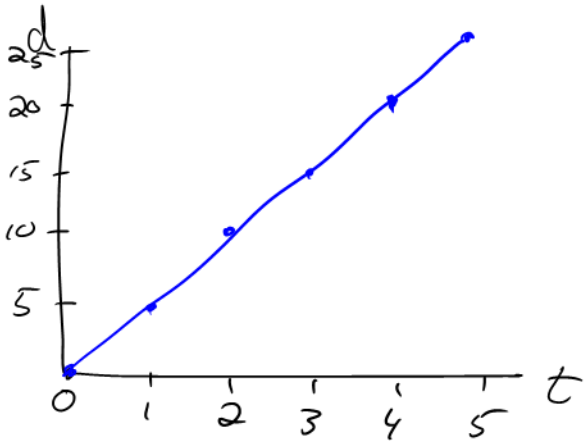
5.3 Graphing Linear Relations: First Quadrant Graphs



pg 252. 1. (0, 0), (1, 1), (2, 2), (3, 3), (4, 4), (5, 5)

3.

Time (h)	Distance km
0	0
1	5
2	10
3	15
4	20
5	25



Pg 253 # 6, 9

5.4 Graphing Linear Equations

1. $y = x - 1$

x	y	(x, y)
−2	−2 − 1 = −3	(−2, −3)
−1	−1 − 1 = −2	(−1, −2)
0	0 − 1 = −1	(0, −1)
1	1 − 1 = 0	(1, 0)
2	2 − 1 = 1	(2, 1)

4. $y = 2x + 2$

x	y	(x, y)
−2	2(−2) + 2 = −2	(−2, −2)
−1	2(−1) + 2 = 0	(−1, 0)
0	2(0) + 2 = 2	(0, 2)
1	2(1) + 2 = 4	(1, 4)
2	2(2) + 2 = 6	(2, 6)

HW: 5.2 All, 5.3 All, 5.4 #2, 3