D. Graphing on the number line:

Problems 38-45: Name the point with given coordinate:

38. 0
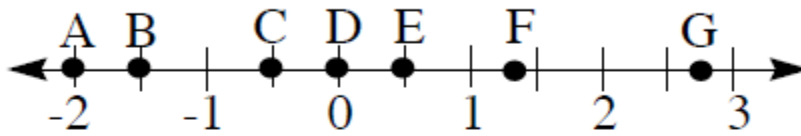
39. $\frac{1}{2}$

40. $-\frac{1}{2}$

41. $\frac{4}{3}$

42. -1.5

43. 2.75

44. $-\frac{3}{2}$

45. $1.\overline{3}$

Problems 46-51: On the number line above, what is the distance between the listed points? (Remember that distance is always positive.)

46. D and G

47. A and D

48. A and F

49. B and C

50. B and E

51. F and G

Answers

38. *D*

39. *E*

40. *C*

41. *F*

42. *B*

43. *G*

44. *B*

45. *F*

46. 2.75

47. 2

48. $3\frac{1}{3}$

49. 1

50. 2

51. $\frac{17}{12}$

Problems 52-55: On the number line, find the distance from:

52. −7 to −4	54. −4 to 7
53. −7 to 4	55. 4 to 7

Problems 56-59: Draw a sketch to help find the coordinate of the point…:

56. Halfway between points with coordinates 4 and 14.

57. Midway between −5 and −1.

58. Which is the midpoint of the segment joining −8 and 4.

59. On the number line the same distance from −6 as it is from 10.

Answers

52. 3
53. 11
54. 11
55. 3
56. 9
57. –3
58. –2
59. 2

E. Coordinate plane graphing:

To locate a point on the plane, an ordered pair of numbers is used, written in the form (x, y).

Problems 60-63: Identify coordinates x and y in each ordered pair:

60. $(3, 0)$

61. $(-2, 5)$

62. $(5, -2)$

63. $(0, 3)$

To plot a point, start at the origin and make the moves, first in the x-direction (horizontal) and then the y-direction (vertical) indicated by the ordered pair.

Answers

60. $x = 3, y = 0$
61. $x = -2, y = 5$
62. $x = 5, y = -2$
63. $x = 0, y = 3$

example: (-3, 4)

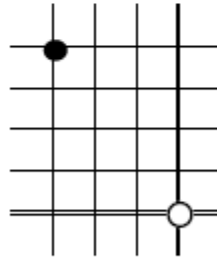Start at the origin, move left 3 (since $x = -3$),
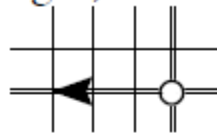
then (from there), up 4 (since $y = 4$),
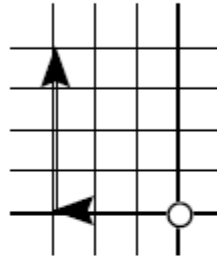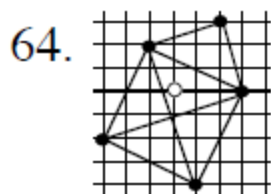
put a dot there to indicate the point (-3, 4)

64. On graph paper, join these points in order:
(–3,–2), (1,–4), (3, 0), (2, 3), (–1, 2), (3, 0),
(–3, –2), (–1, 2), (1,–4).

Answers

64.

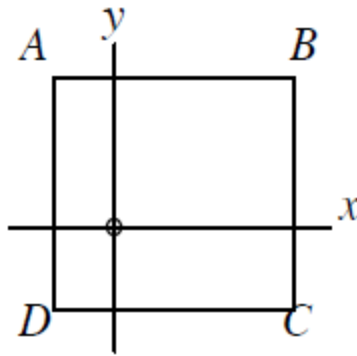65. Two of the lines drawn in problem 64 cross each other. What are the coordinates of the crossing point?

66. In what quadrant is the point (a,b) if $a > 0$ and $b < 0$?

Problems 67-69: $ABCD$ is a square, with $C(5,-2)$ and $D(-1,-2)$. Find:

67. the length of each side.

68. the coordinates of A.

69. the coordinates of the midpoint of $\overline{DC}$.

Problems 70-72: Given $A(0,5)$, $B(12,0)$:

70. Sketch a graph. Draw $\overline{AB}$. Find its length.

71. Find the midpoint of $\overline{AB}$ and label it C. Find the coordinates of C.

72. What is the area of the triangle formed by A, B, and the origin?

Answers

65. $(0,-1)$
66. IV
67. 6
68. $(-1,4)$
69. $(2,-2)$
70. 13
71. $\left(6,\frac{5}{2}\right)$
72. 30