

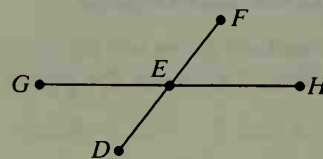
$E$  is the midpoint of  $\overline{DF}$ . Find the value of  $x$ .

33.  $DE = 5x + 3$ ,  $EF = 33$

34.  $DE = 45$ ,  $EF = 5x - 10$

35.  $DE = 3x$ ,  $EF = x + 6$

36.  $DE = 2x - 3$ ,  $EF = 5x - 24$



Exs. 33-40

Find the value of  $y$ .

37.  $GE = y$ ,  $EH = y - 1$ ,  $GH = 11$

38.  $GE = 3y$ ,  $GH = 7y - 4$ ,  $EH = 24$

Find the value of  $z$ . Then find  $GE$  and  $EH$  and state whether  $E$  is the midpoint of  $\overline{GH}$ .

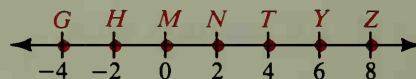
39.  $GE = z + 2$ ,  $GH = 20$ ,  $EH = 2z - 6$

40.  $GH = z + 6$ ,  $EH = 2z - 4$ ,  $GE = z$

Name the graph of the given equation or inequality.

**Example** a.  $x \geq 2$  b.  $4 \leq x \leq 6$

**Solution** a.  $\overrightarrow{NT}$  b.  $\overleftrightarrow{TY}$



Exs. 41-45

41.  $-2 \leq x \leq 2$

42.  $x \leq 0$

43.  $|x| \leq 4$

44.  $|x| \geq 0$

45.  $|x| = 0$

In Exercises 46 and 47 draw a diagram to illustrate your answer.

46. a. On  $\overrightarrow{AB}$ , how many points are there whose distance from point A is 3 cm?

b. On  $\overleftrightarrow{AB}$ , how many points are there whose distance from point A is 3 cm?

**C** 47. On  $\overrightarrow{AB}$ , how many points are there whose distance from point B is 3 cm?

48. The Ruler Postulate suggests that there are many ways to assign coordinates to a line. The Fahrenheit and Celsius temperature scales on a thermometer indicate two such ways of assigning coordinates. A Fahrenheit temperature of  $32^\circ$  corresponds to a Celsius temperature of  $0^\circ$ . The formula, or rule, for converting a Fahrenheit temperature  $F$  into a Celsius temperature  $C$  is

$$C = \frac{5}{9}(F - 32).$$

- What Celsius temperatures correspond to Fahrenheit temperatures of  $212^\circ$  and  $98.6^\circ$ ?
- Solve the equation above for  $F$  to obtain a rule for converting Celsius temperatures to Fahrenheit temperatures.
- What Fahrenheit temperatures correspond to Celsius temperatures of  $-40^\circ$  and  $2000^\circ$ ?

