

In Exercises 16–19 a point P on a line and the slope of the line are given. Sketch the line and find the coordinates of two other points on the line.

16. $P(-2, 1)$; slope $= \frac{1}{3}$

17. $P(-3, 0)$; slope $= \frac{2}{5}$

18. $P(2, 4)$; slope $= -\frac{3}{2}$

19. $P(0, -5)$; slope $= -\frac{1}{4}$

In Exercises 20 and 21 show that points P , Q , and R are collinear by showing that \overline{PQ} and \overline{QR} have the same slope.

20. $P(-1, 3)$ $Q(2, 7)$ $R(8, 15)$

21. $P(-8, 6)$ $Q(-5, 5)$ $R(4, 2)$

- B** 22. A wheelchair ramp is to be built at the town library. If the entrance to the library is 18 in. above ground, and the slope of the ramp is $\frac{1}{15}$, how far out from the building will the ramp start?



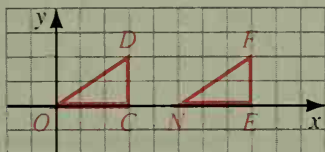
Complete.

23. A line with slope $\frac{3}{4}$ passes through points $(2, 3)$ and $(10, \underline{\quad})$.

24. A line with slope $-\frac{5}{2}$ passes through points $(7, -4)$ and $(\underline{\quad}, 6)$.

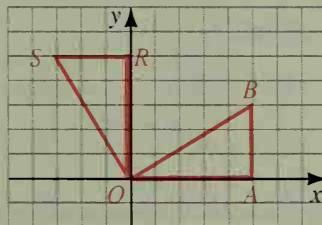
25. A line with slope m passes through points (p, q) and $(r, \underline{\quad})$.

26. a. Find the slopes of \overline{OD} and \overline{NF} .
b. Why is $\triangle OCD \cong \triangle NEF$?
c. Why is $\angle DOC \cong \angle FNE$?
d. Why is $\overline{OD} \parallel \overline{NF}$?
e. What do you think is true about the slopes of parallel lines?



Ex. 26

27. a. Show that $\triangle OAB \cong \triangle ORS$.
b. Why is $\overline{OB} \perp \overline{OS}$?
c. Find the product of the slopes of \overline{OB} and \overline{OS} .



Ex. 27

In Exercises 28 and 29, (a) find the lengths of the sides of $\triangle RST$, (b) use the converse of the Pythagorean Theorem to show that $\triangle RST$ is a right triangle, and (c) find the product of the slopes of \overline{RT} and \overline{ST} .

28. $R(4, 2)$, $S(-1, 7)$, $T(1, 1)$

29. $R(4, 3)$, $S(-3, 6)$, $T(2, 1)$