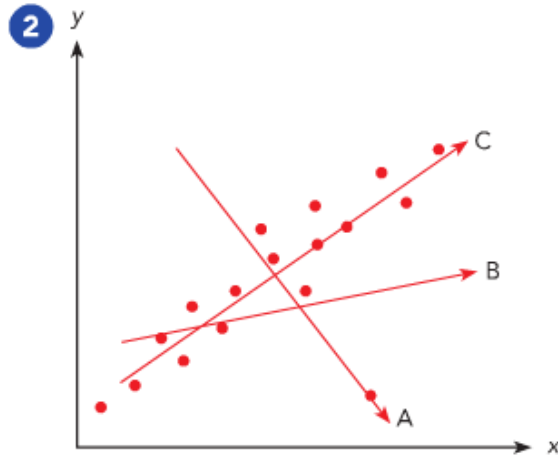
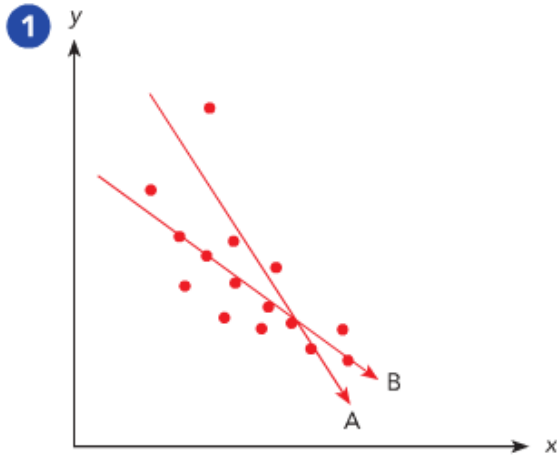


Practice 10.2

State the line that represents a line of best fit for each scatter plot.



Draw a scatter plot and a line of best fit for each table of bivariate data.

- 3 Use 1 centimeter on the horizontal axis to represent 1 unit. Use 1 centimeter on the vertical axis to represent 20 units.

x	4	1	2	3	5	6	3	6	2	7
y	72	12	32	164	88	112	52	88	40	136

- 4 Use 1 centimeter on the horizontal axis to represent 1 unit for the x interval from 80 to 87. Use 1 centimeter on the vertical axis to represent 10 units for the y interval from 200 to 300.

x	80	84	81	87	81	86	82
y	220	236	214	256	200	250	292

x	83	83	84	85	85	83	82
y	220	240	238	240	244	232	222

- 5 Use 1 centimeter on the horizontal axis to represent 0.1 unit. Use 1 centimeter on the vertical axis to represent 5 units for the y interval from 20 to 70.

x	0.1	0.9	0.3	0.4	0.4	1.1	1.0
y	69	59	66	65	64	58	61

x	0.8	0.5	0.7	0.7	0.6	0.2	0.5
y	59	65	63	60	30	68	62

Draw a scatter plot and a line of best fit for each table of bivariate data. Find an equation for the line of best fit.

- 6 Use 2 centimeters on the horizontal axis to represent 1 tree for the x interval from 13 to 18. Use 1 centimeter on the vertical axis to represent 20 squirrels for the y interval from 260 to 480.

Trees (x)	13	15	13	17	18	16	17
Squirrel Population (y)	344	408	356	388	468	420	476

Trees (x)	14	14	16	16	18	15	15
Squirrel Population (y)	264	368	440	400	476	400	392

- 7 Use 1 centimeter on the horizontal axis to represent 5 kilometers. Use 1 centimeter on the vertical axis to represent 1 liter for the y interval from 5 to 16.

Distance (x kilometers)	15	23	56	32	53	23	48
Gasoline Used (y liters)	5.8	6.6	10.2	7.4	16.0	6.8	9.4

Distance (x kilometers)	53	20	43	28	37	31	16
Gasoline Used (y liters)	9.6	6.2	8.8	7.2	8.0	7.4	5.8

Use the table below to answer questions 8 to 13.

Snow density is an important factor affecting speed and control in snow boarding. To understand the relationship between snow density, y grams per cubic centimeters, and air temperature, $x^{\circ}\text{C}$, data are collected and shown below.

Air Temperature ($^{\circ}\text{C}$)	-17	-16	-15	-14	-13	-12	-11	-10
Snow Density (g/cm^3)	0.036	0.060	0.050	0.060	0.054	0.070	0.086	0.090



- 8 Use graph paper to draw the scatter plot. Use 1 centimeter on the horizontal axis to represent 1°C for the x interval from -17 to -9 . Use 1 centimeter on the vertical axis to represent 0.010 grams per cubic centimeter.
- 9 Describe the association between air temperature and snow density.
- 10 Sketch a line of best fit.
- 11 Find an equation for the line of best fit.
- 12 Use the graph to estimate the density when the temperature is -14.6°C .
- 13 Use the equation in 11 to predict the density when the temperature is -9°C .