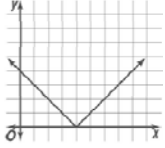


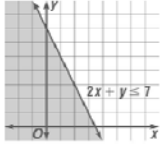
**STARTER 1.6**

On a slip of paper, write your name and graph each WITHOUT your calculator!

4. Graph  $f(x) = |4 - x|$ .



5. Graph  $2x + y \leq 7$ .



**HOMEWORK CHECK**

- Volunteers needed to put the 6 graphs from the practice worksheet on the boards.

28. a. step  
b. Let  $c(h)$  represent the cost for  $h$  hours.

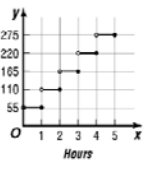
$$c(h) = \begin{cases} 55h & \text{if } \llbracket h \rrbracket = h \\ 55\llbracket h + 1 \rrbracket & \text{if } \llbracket h \rrbracket < h \end{cases}$$

29. a.  $3x - y - 2 = 0$   
b.  $x + 3y + 6 = 0$

30.  $y = \frac{3}{4}x + 3\frac{1}{4}$

31. a. (0, 23), (16, 48); 1.5625  
b. the average change in the temperature per hour

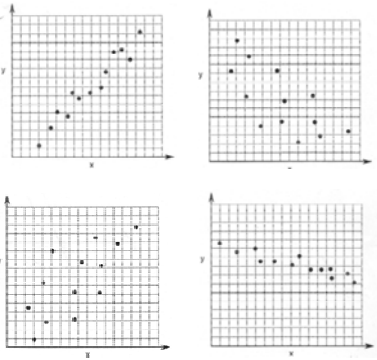
32. E



**1.6: Modeling Real-World Data**

- Linear regressions
- Graphing calculator regressions

Describe each graph's correlation as either: strong or weak and either positive or negative.



Modeling Real-World Data with Linear Functions


Complete the following for each set of data.

- Graph the data on a scatter plot.
- Use two ordered pairs to write the equation of a best-fit line.
- If the equation of the regression line shows a moderate or strong relationship, predict the missing value. Explain whether you think the prediction is reliable.

1. U. S. Life Expectancy

Birth Year	Number of Years
1990	75.4
1991	75.5
1992	75.6
1993	75.5
1994	75.7
1995	75.8
2015	?

Source: National Center for Health Statistics



2. Population Growth

Year	Population (millions)
1991	252.1
1992	252.0
1993	252.0
1994	252.3
1995	252.6
1996	252.9
1997	252.7
1998	253.0
1999	252.9
2010	?

Source: U.S. Census Bureau

a.

