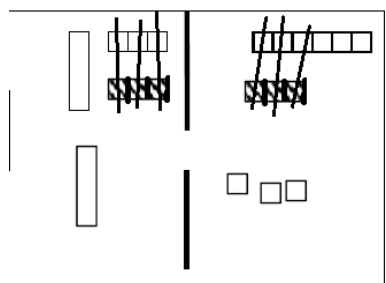


Algebra I Texas Style

Answers

Workbook 1

Ex 1



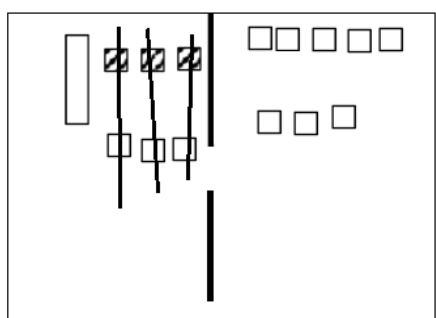
Same step

Now solve it
Algebraically

$$X + 3 = 6$$

$$\begin{array}{r} -3 \quad -3 \\ \hline x = 3 \end{array}$$

Ex. 2 Solve $x - 3 = 5$ using Algebra tiles and showing algebraic steps.

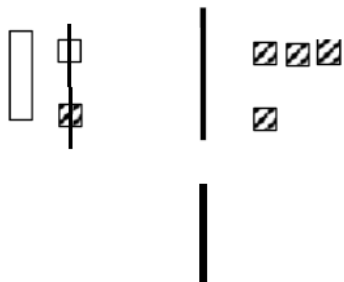


Now solve it
Algebraically

$$X - 3 = 5$$

$$\begin{array}{r} +3 \quad +3 \\ \hline x = 8 \end{array}$$

Ex. 3 Solve $x + 1 = -3$ using Algebra tiles and showing algebraic steps.



Now solve it
Algebraically

$$X + 1 = -3$$

$$\begin{array}{r} -1 \quad -1 \\ \hline x = -4 \end{array}$$

- | | | | |
|---|---|--|--|
| $x + 2 = 4$ | $x - 2 = 4$ | $x + 2 = -4$ | $x - 2 = -4$ |
| 1. $\begin{array}{r} -2 \quad -2 \\ \hline x = 2 \end{array}$ | 2. $\begin{array}{r} +2 \quad +2 \\ \hline x = 6 \end{array}$ | 3. $\begin{array}{r} -2 \quad -2 \\ \hline x = -6 \end{array}$ | 4. $\begin{array}{r} +2 \quad +2 \\ \hline x = -2 \end{array}$ |

Depends: Making good grades depends on me doing my homework.

Is a function of: Making good grades is a function of me doing my homework.

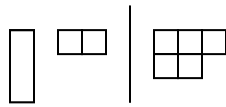
Determines: Me doing my homework determines if I make good grades.

Choose the best answer: D

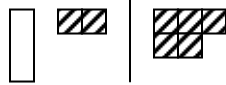
Pattern 1-1, p 5

1. $x = 7$

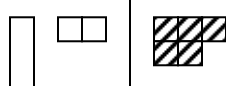
2. $x = 3$



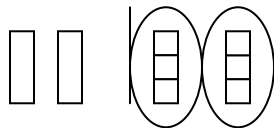
3. $x = -3$



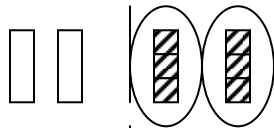
4. $x = -7$



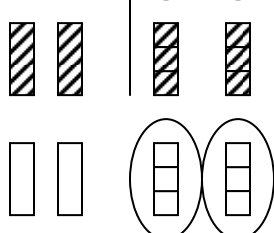
5. $x = 3$



6. $x = -3$



7. $x = 3$



8. Answers may vary. When combining like terms, same signs you add, different signs you subtract.

9. When multiplying or dividing two integers, if they have the same signs then the answer is positive. When multiplying or dividing two integers, if they are different signs then the answer is negative.

10. practice

11. practice

12. playing better

14. $x = -16$

15. $x = -3$

16. $x = -4$

17. $x = 15$

18. $x = -4$

19. $x = 7$

20. $x = 9$

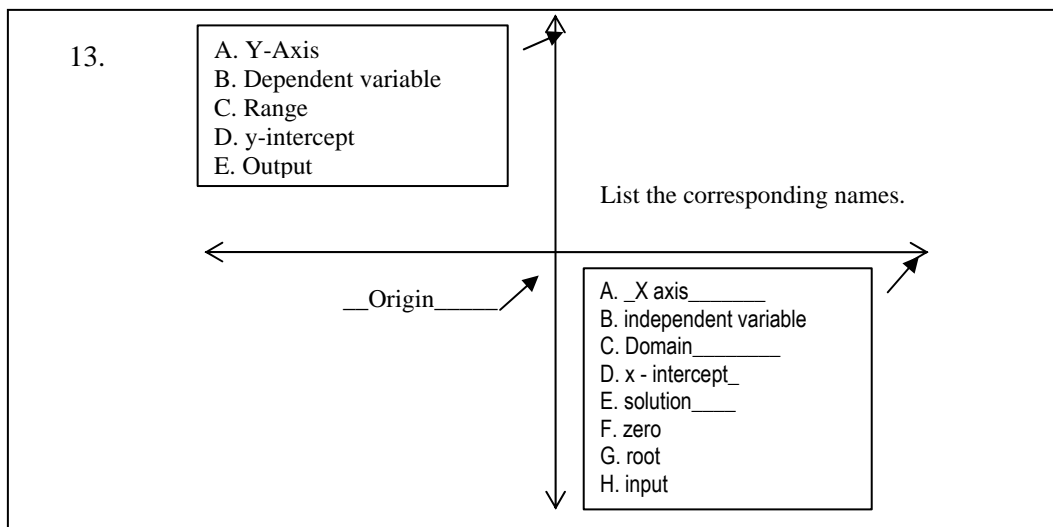
21. $x = -24$

22. Driving too fast determines if I get a speeding ticket.

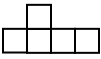
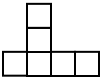
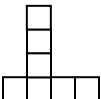
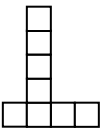
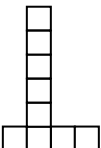
23. (Independent, *Dependent*), (*Domain*, Range), (X, Y)

24. B

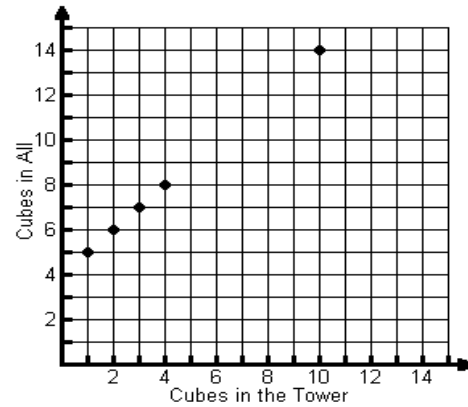
25. D



Example 1.

Term # (cubes in the tower)		Process	Cubes in All
1		$1+4$	5
2		$2+4$	6
3		$3+4$	7
4		$4+4$	8
5		$5+4$	9
10		$10+4$	14
20		$20+4$	24
?			32
?			50
n		$n + 4$	

- a. Label the axis of the graph and plot the points.



- b. What is the independent variable? *Cubes in the tower (It is the title at the top of the left hand column)*

What is the dependent variable? *Cubes in all (It is the title at the top of the right hand column)*

- c. What kind of correlation does this have? *Since the dots on the graph go up from left to right, it has a positive correlation.*

- d. What is a reasonable domain? *Domain represents the independent variable or x. So this reasonable domain is from 1 to any number you pick as reasonable, like 20. Because it might fall after 20 cubes in the tower. (Any reasonable number will do, as long as you can justify it)*

What is a reasonable range? *Range represents the dependent variable or y. These values depend on what you chose for your domain. See the table at the right. A reasonable range is 5 to 24 cubes in all.*

Domain		Range
1	$1+4$	5
20	$20+4$	24

- e. What is the rate of change? *The total number of cubes is increasing by one for each new cube in the tower. The rate of change is $\frac{1}{1} = 1$.*

What is the fixed number? *4 is the number that is added to the number of cubes in the tower each time. 4 is the fixed number.*



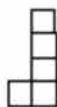

What is the function rule? *$F(n)=1n+4$ or $n+4$*

*Pattern Activities Adapted from TEXTEAMS – Algebra 2000 and Beyond,
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Lesson 1-2 p 8

Pattern Activity 1

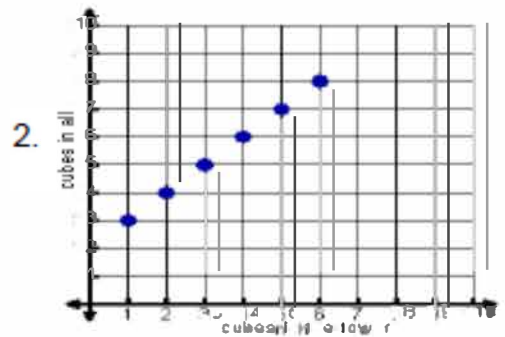
1. Copy and complete the table:

Term # (cubes in the tower)		Process	Cubes in All
1		$1+2$	3
2		$2+2$	4
3		$3+2$	5
4		$4+2$	6
5	Draw this one	$5+2$	7
10		$10+2$	12
20		$20+2$	22
?			38
?			103
n	$n+2$		

14. $f(20)=20+2=22$

15. $n+2=38$
 $-2 \quad -2$
 $n=36$

16. $n+2=103$
 $-2 \quad -2$
 $n=101$



3. Cubes in the tower

4. Cubes in all

5. Positive

6. D: 1 to 25 cubes in the tower*

7. R: 3 to 27 cubes in all*

Domain		Range
1	$1+2$	3
25	$25+2$	27

* Domain and Range may vary.
 check reasonableness and make
 sure that the domain and range
 correspond.

8. 1

9. 2

10. $f(n)=n+2$

11. $f(2)=2+2$
 $=4$





12. $f(4)=4+2$
 $=6$

13. $f(0)=0+2$
 $=2$

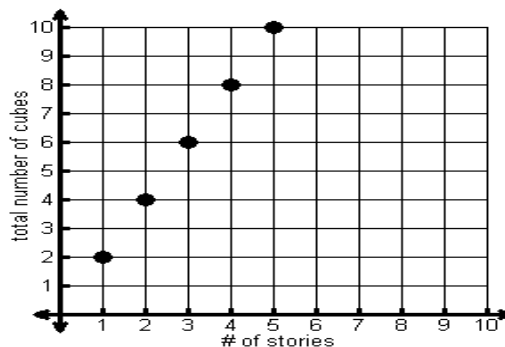
Pattern Activities Adapted from TEXTEAMS – Algebra 2000 and Beyond,
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Pattern Activity 2 - Page 9

1. Complete the table

Term # (# of stories)	Picture		Total Number of Cubes
1		$2(1)$	2
2		$2(2)$	4
3		$2(3)$	6
4	Draw this one: 	$2(4)$	8
5		$2(5)$	10
10		$2(10)$	20
50		$2(50)$	100
?			44
?			110
n		$2n$	

2. Label and graph the data.



3. # of stories

4. total number of cubes

5. positive

6. 1 to 25 stories

Domain		Range
1	$2(1)$	2
25	$2(25)$	50

7. 2 to 50 cubes in all

8. 2

9. 0

10. $f(n)=2n+0$ or $2n$

11. Find each value: a. $f(4)=2(4)=8$ b. $f(5)=2(5)=10$ c. $f(10)=2(10)=20$ d. $f(50)=2(50)=100$

e. $f(n)=44$, what is n ?
 $2n = 44$

$$\frac{2n}{2} = \frac{44}{2}$$

$$n = 22$$

f. $f(n)=110$, what is n ?
 $2n = 110$


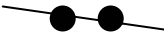
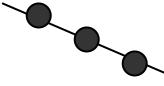
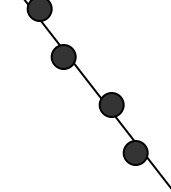
$$\frac{2n}{2} = \frac{110}{2}$$

$$n = 55$$

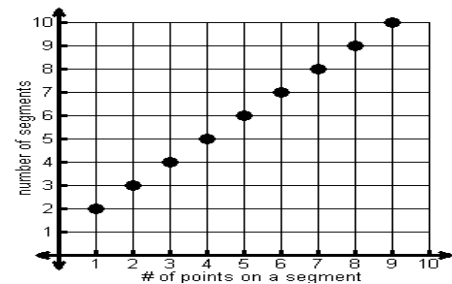
Pattern Activities Adapted from *TEXTEAMS – Algebra 2000 and Beyond*,
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Pattern Activity 3 - Page 10

1. Complete the table

Term # (# of points on a segment)	Picture	Process	Number of Segments
1		$1+1$	2
2		$2+1$	3
3	Draw this one: 	$3+1$	4
4	Draw this one: 	$4+1$	5
5		$5+1$	6
10		$10+1$	11
50		$50+1$	51
?			47
?			105
n	$n+1$		

2. Label and graph the data.



3. # of points on a segment

4. number of segments

5. positive

6. 1 to 10 points

7. 2 to 11 segments

Domain		Range
1	$1+1$	2
10	$10+1$	11

8. 1

9. 1

10. $f(n)=n+1$

11. Find each value: a. $f(4)= 5$ b. $f(5)= 6$ c. $f(10)=11$ d. $f(50)=51$

e. $f(n)=47$, what is n ?

$$n+1=47$$

$$n=46$$

f. $f(n)=105$, what is n ?


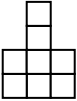
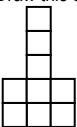
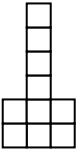
$$n+1=105$$

$$n=104$$

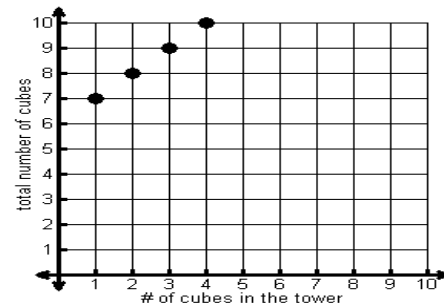
Pattern Activities Adapted from *TEXTTEAMS – Algebra 2000 and Beyond*,
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Pattern Activity 4 - Page 10

1. Complete the table

Term # (# of cubes in the tower)	Picture	Process	Total Number of Cubes
1		$1+6$	7
2		$2+6$	8
3	Draw this one: 	$3+6$	9
4	Draw this one: 	$4+6$	10
5		$5+6$	11
10		$10+6$	16
50		$50+6$	56
?			57
?			109
n		$n+6$	

2. Label and graph the data.



3. # of cubes in the tower

4. total number of cubes

5. positive

6. 1 to 10 cubes in the tower

7. 7 to 16 cubes in all

Domain		Range
1	$1+6$	7
10	$10+6$	16

8. 1

9. 6

11. Find each value: a. $f(4)=$ 10 b. $f(5)=$ 11 c. $f(10)=$ 16 d. $f(50)=$ 56

e. $f(n)=57$, what is n ?

$$n+6=57$$

$$n=51$$

f. $f(n)=109$, what is n ?



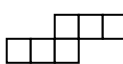
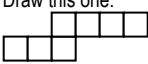
$$n+6=109$$

$$n=103$$

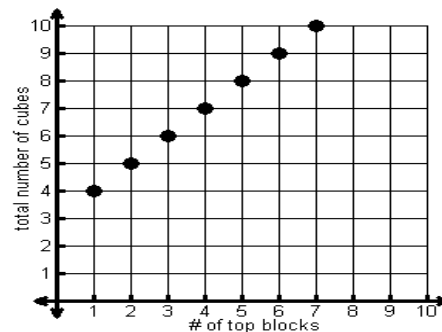
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Practice 1-2, p 11

1. Complete the table

Term # (# of top blocks)	Picture	Process	Total Number of Cubes
1		$1+3$	4
2		$2+3$	5
3		$3+3$	6
4	Draw this one: 	$4+3$	7
5		$5+3$	8
10		$10+3$	13
50		$50+3$	53
?			42
?			120
n		$n+3$	

2. Label and graph the data.



3. # of top blocks

4. total number of cubes

5. positive

6. 1 to 10 top blocks

7. 4 to 13 blocks in all

8. 1

9. 3

11. a. 7 b. 8 c. 13 d. 53

$$\begin{array}{ll} n+3=42 & n+3=120 \\ e. -3 & f. -3 \\ n=39 & n=117 \end{array}$$

$$\begin{array}{ll} x+2=-5 & 3x=-6 \\ 12. -2 & 13. \frac{3x}{3} = \frac{-6}{3} \\ x=-7 & x=-2 \end{array}$$

14. a. 3 b. 5 c. 4 d. -17 e. 12
f. -6 g. 6 h. -8 i. -4

15. a. The grades I make are a function of how much I study.

b. How much I study determines the grades that I make.

16. B 17. A 18. C

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Lesson 1-3, p 13

Warm-up:

1. a. $P(\text{blue}) = \frac{4}{12} = \frac{1}{3}$

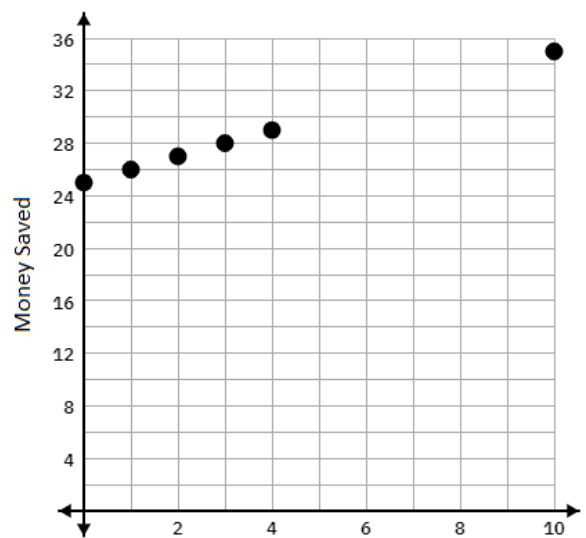
b. $P(\text{blue, yellow}) \text{ without replacement} = \frac{4}{12} \cdot \frac{2}{11} = \frac{2}{33}$

2. a. The amount of money I make, depends on how much I work.

b. How much I work determines the amount of money I make.

Ex 1

# of weeks	Process Column	Money Saved
0	$25+0$	25
1	$25+1 \cdot 1$	26
2	$25+1 \cdot 2$	27
3	$25+1 \cdot 3$	28
4	$25+1 \cdot 4$	29
10	$25+1 \cdot 10$	
15	$25+1 \cdot 15$	
?		50
?		59
n	$25+1 \cdot n$	



c. # weeks

d. Money saved

e. The money saved depends on the number of weeks he saves.

f. positive

g. Answers may vary: Domain: 0 to 40 weeks.
Range: \$25 to \$65

h. 1

i. 25

j. $f(n)=25+n$ or $f(n)=25+1n$

k. $f(10)=35$, $f(15)=40$, $f(n)=50$ when $n=25$, $f(n)=59$ when $n=34$

Ex 2 a. 40%

b. 120

c. 48

d. 24

Ex 3 a. $\frac{2}{5}$

b. 30

c. 9

d. 3

e. 6

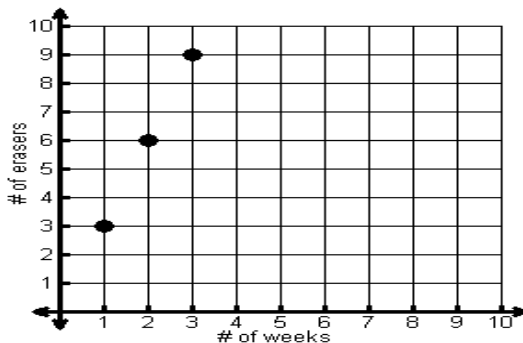
Try these: 1. $X=12$, 2. $X=8.7$, 3. $X=8$, 4. $X=4$

Pattern Set 1-3, p 15

1. a.

# of weeks		# of erasers
0	$3(0)$	0
1	$3(1)$	3
2	$3(2)$	6
3	$3(3)$	9
4	$3(4)$	12
10	$3(10)$	30
15	$3(15)$	45
?		105
?		75
n	$3n$	

b.



c. # of weeks

d. # of erasers

e. 0 to 52 weeks

f. 0 to 156 erasers

domain		range
0	$3(0)$	0
52	$3(52)$	156

g. 3

h. 0

i. $f(n)=3n+0$ or $3n$

j. $P(4)=12$, $P(10)=30$, $P(15)=45$, $P(50)=150$, $P(n)=105 \rightarrow n=35$, $P(n)=75 \rightarrow n=25$

2. domain, independent variable, x-intercept, solutions, roots, input

$$x+3=1$$

$$2x=-6$$

3. a. $-3-3$

b. $\frac{2x}{2} = \frac{-6}{2}$

$$x=-2$$

$$x=-3$$

4. a. $x=-2$ b. $x=10$ c. $x=4$

d. $x=-9.3$ e. $x=-3$ f. $x=14$

g. $x=-120$ h. $x=-9$ i. $x=30$

5. a. $\frac{4}{12} = \frac{1}{3}$

b. $\frac{2}{12} \cdot \frac{6}{12} = \frac{1}{12}$

c. $\frac{2}{12} \cdot \frac{6}{11} = \frac{1}{11}$

6. $P(\text{orange}) = 1 - \frac{2}{5} - \frac{1}{5} = \frac{2}{5}$, $\frac{2}{5} = \frac{8}{x}$, $x = 20$ sports drinks, choice D

7. C

8. % of lime = $100\% - 25\% - 30\% - 35\% = 10\% = 0.10$
choice D


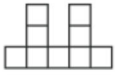

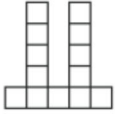
$$0.10x = 12 \quad \text{grape} = 0.35(120) = 42$$

$$\frac{0.10}{0.10} = \frac{12}{0.10}$$

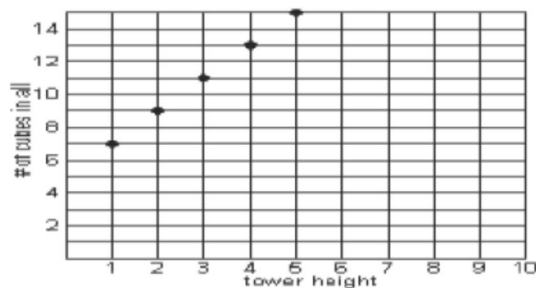
$$x = 120$$

Example 1:

1. Complete the table.

Term # (tower height)	Picture	Process	# of cubes in all
1		$2(1)+5$	7
2		$2(2)+5$	9
3		$2(3)+5$	11
4		$2(4)+5$	13
5		$2(5)+5$	15
10		$2(10)+5$	25
50		$2(50)+5$	105
?			39
?			71
n			

2. Label and graph the data.



3. What is the independent variable? *Tower height*

4. What is the dependent variable? *# of cubes in all*

5. What kind of correlation does this have? *positive*

6. What is a reasonable domain? *Tower height of 1 to 25 cubes (I chose 25 this time because my group only has 25 cubes and that is all we could build.)*

Domain		Range
1	$2(1)+5$	7
25	$2(25)+5$	55

7. What is a reasonable range? *Total number of 7 to 55 cubes.*

8. What is the rate of change? $\frac{2}{1} = 2$, *it is increasing by 2 cubes in all each time.*

9. What is the fixed number? *5, each time 5 is needed to make the function rule work in the table.*

10. What is the function rule? $f(x) = 2x + 5$

11. Find each value: a. $f(4) = 13$ b. $f(5) = 15$ c. $f(10) = 25$ d. $f(50) = 105$

See the table for the work on questions a – d.

e. $f(n) = 39$, $n = ?$

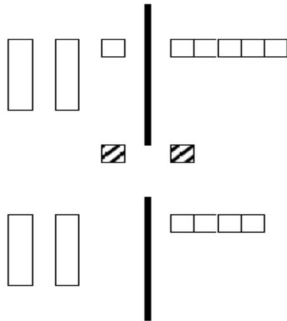
$$\begin{array}{r}
 2x+5=39 \\
 -5 \quad -5 \\
 \hline
 2x=34 \\
 2 \quad 2 \\
 \hline
 x=17
 \end{array}$$

f. $f(n) = 71$, $n = ?$

$$\begin{array}{r}
 2x+5=71 \\
 -5 \quad -5 \\
 \hline
 2x=66 \\
 2 \quad 2 \\
 \hline
 x=33
 \end{array}$$

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Example 2: Solve this equation using Algebra Tiles and show the Algebraic Steps:



First subtract 1 (the number without an x) from both sides of the equation.
Then divide what's left by the number of x 's

$$\begin{aligned} 2x + 1 &= 5 \\ -1 &-1 \\ \hline 2x &= 4 \\ \frac{2x}{2} &= \frac{4}{2} \\ x &= 2 \end{aligned}$$

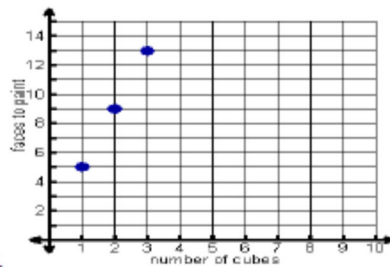
1.

$$\begin{aligned} 3x - 1 &= 5 \\ +1 &+1 \\ \hline 3x &= 6 \\ \frac{3x}{3} &= \frac{6}{3} \\ x &= 2 \end{aligned}$$

Pattern Activity 5

1. Copy and complete the table

Term # (# of cubes)	Picture		Faces to paint
1		$4(1)+1$	5
2		$4(2)+1$	9
3		$4(3)+1$	13
4	Draw this one 	$4(4)+1$	17
5		$4(5)+1$	21
10		$4(10)+1$	41
50		$4(50)+1$	201
?			37
?			105
n		$4n+1$	



- 2.
3. number of cubes
4. faces to paint
5. positive
6. 1 to 20 cubes
7. 5 to 81 faces to paint

Domain		Range
1	$4(1)+1$	5
20	$4(2)+1$	81

8. $\frac{4}{1} = 4$
9. 1
10. $f(n)=4n+1$

11. Find each value:

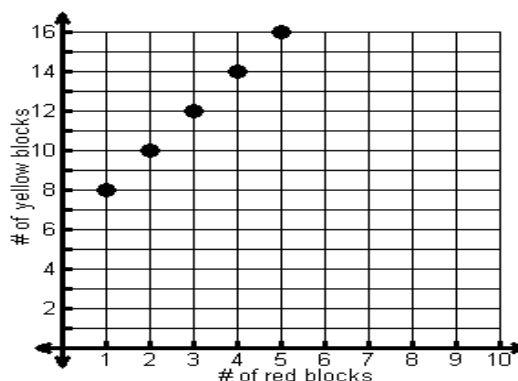
- | | | |
|---------------------|------------------------------|-------------------------------|
| a. $f(4)=4(4)+1=17$ | b. $f(5)=4(5)+1=21$ | c. $f(10)=4(10)+1$ |
| d. $f(50)=4(50)+1$ | e. $f(n)=37$, what is n ? | f. $f(n)=105$, what is n ? |
- $$\begin{aligned} 4n+1 &= 37 \\ -1 &-1 \\ \hline 4n &= 36 \\ \frac{4n}{4} &= \frac{36}{4} \\ n &= 9 \end{aligned}$$
- $$\begin{aligned} 4n+1 &= 105 \\ -1 &-1 \\ \hline 4n &= 104 \\ \frac{4n}{4} &= \frac{104}{4} \\ n &= 26 \end{aligned}$$

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Pattern Activity 6 - Page 19

Term # (# of red blocks)	Picture	Process	# yellow blocks
1		$2(1)+6$	8
2		$2(2)+6$	10
3		$2(3)+6$	12
4	Draw this one 	$2(4)+6$	14
5		$2(5)+6$	16
10		$2(10)+6$	26
50		$2(50)+6$	106
?			38
?			110
n		$2n+6$	

2.



3. # of red blocks

4. # of yellow blocks

5. positive

6. 1 to 20 red blocks or $\{1 \leq x \leq 20\}$

7. 8 to 46 yellow blocks or $\{8 \leq y \leq 46\}$

Domain		Range
1	$2(1)+6$	8
20	$2(20)+6$	46

8. 2


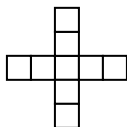
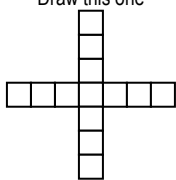
9. 6

10. $f(n)=2n+6$

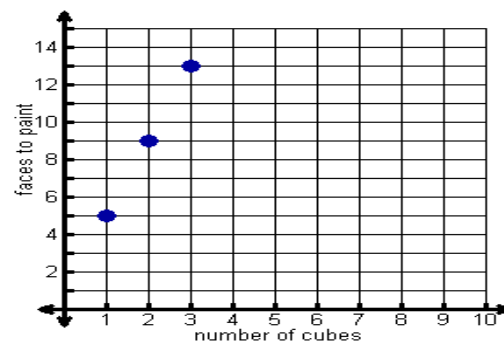
11. a. 14 b. 16 c. 26
d. 106 e. 16 f. 52

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Pattern Activity 7 - Page 20

Term # # of windmill	Picture	Process	# of blocks in windmill
1		$4(1)+1$	5
2		$4(2)+1$	9
3	Draw this one 	$4(3)+1$	13
4		$4(4)+1$	17
5		$4(5)+1$	21
10		$4(10)+1$	41
50		$4(50)+1$	201
?			41
?			121
n		$4n+1$	

2.



3. # of windmill

4. # of blocks in windmill

5. positive

6. 1 to 20 windmills

7. 5 to 81 blocks

Domain		Range
1	$4(1)+1$	5
20	$4(20)+1$	81

8. 4

9. 1

10. $f(n)=4n+1$

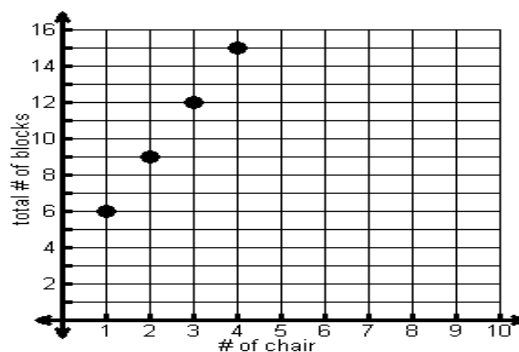
11. a. 17 b. 21 c. 41
 d. 201 e. 10 f. 30

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Pattern Activity 8 - Page 21

Term # # of chair	Picture	Process	# of blocks
1		$3(1)+3$	6
2		$3(2)+3$	9
3		$3(3)+3$	12
4	Draw this one: 	$3(4)+3$	15
5		$3(5)+3$	18
10		$3(10)+3$	33
50		$3(50)+3$	153
?			42
?			120
n		$3n+3$	

2.



3. Chair #

4. total # of blocks

5. positive

6. chair numbers from 1 to 10

7. 6 to 33 blocks

Domain		Range
1	$3(1)+3$	6
10	$3(10)+3$	33

8. 3

9. 3

10. $f(n)=3n+3$

11. a. 15 b. 18 c. 33
 d. 153 e. 13 f. 39

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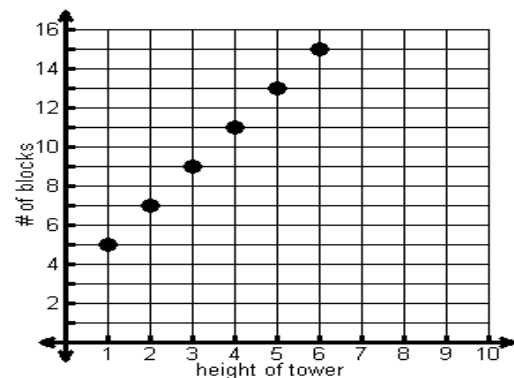
Pattern Set 1-4C, p 22

Pattern Activity 9

1.

Height of tower	Process	# of blocks
1	$2(1)+3$	5
2	$2(2)+3$	7
3	$2(3)+3$	9
4	$2(4)+3$	11
5	$2(5)+3$	13
10	$2(10)+3$	23
50	$2(50)+3$	103
n	$2n+3$	

2.



3. Independent: Height of tower; Dependent: Total number of blocks

4. positive

5. Possible Answer: Domain: height of 1 to 10 blocks or $\{1 \leq x \leq 10\}$; Range: 5 to 23 blocks in all or $\{5 \leq y \leq 23\}$

Domain		Range
1	$2(1)+3$	5
10	$2(10)+3$	23

6. Rate: 2

Fixed number: 3

Function rule: $f(x)=2x+3$

7. a. 11

b. 13

c. 23

d. 103

e. 16

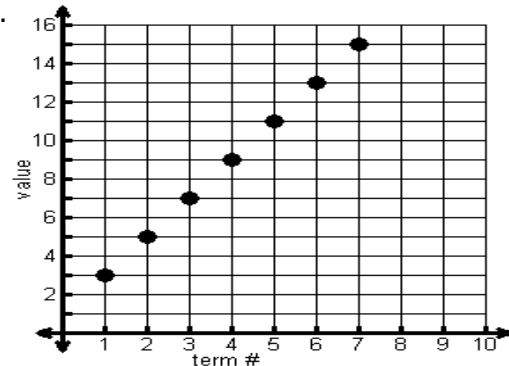
f. 54

Pattern Activity 10

1.

Term #	Process	value
1	$2(1)+1$	3
2	$2(2)+1$	5
3	$2(3)+1$	7
4	$2(4)+1$	9
5	$2(5)+1$	11
n	$2n+1$	

2.



3. Independent: Term #

Dependent: value

4. positive

5. Possible Answer: Domain: 1 to 20 or $\{1 \leq x \leq 20\}$; Range: 3 to 41 or $\{3 \leq y \leq 41\}$

Domain		Range
1	$2(1)+1$	3
20	$2(20)+1$	41

6. Rate: 2

Fixed number: 1

Function rule: $f(x)=2x+1$

7. a. 9

b. 11

c. 21

d. 101

e. 24

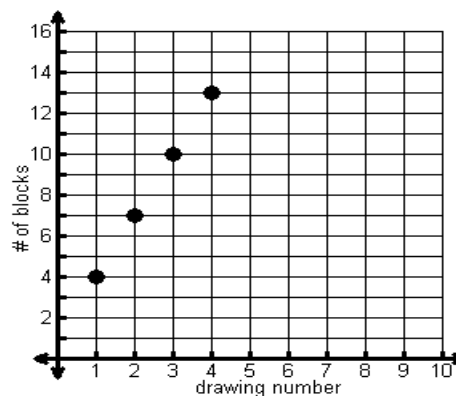
f. 49

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Pattern Set 1-4, p 23

1. a.

# of drawing	Process	# of blocks
1	$3(1)+1$	4
2	$3(2)+1$	7
3	$3(3)+1$	10
4	$3(4)+1$	13
n	$3n+1$	



b. Independent: # of drawing Dependent: # of blocks

c. Positive

d. 3

e. 1

f. $f(x)=3x+1$

g. possible answer: domain: drawings of 1 to 20;
range: 4 to 61 blocks

Domain		Range
1	$3(1)+1$	4
20	$3(20)+1$	61

h. $f(50)=3(50)+1=151$

i. $3n+1=100$

$$-1 \quad -1$$

$$\frac{3n}{3} = \frac{99}{3}$$

$$n = 33$$

2. a. $2x+1=-5$

$$-1 \quad -1$$

$$\frac{2x}{2} = \frac{-6}{2}$$

$$x = -3$$

b. $3x-1=5$

$$+1 \quad +1$$

$$\frac{3x}{3} = \frac{6}{3}$$

$$x = 2$$

3. a. 6

b. -4

c. -4

d. 5

e. -2

f. 7

g. 4

h. 7

i. 8

4.

x-intercept	y-intercept
Independent	Dependent
Domain	Range
input	output

5. A

6. B

7. B

8. A

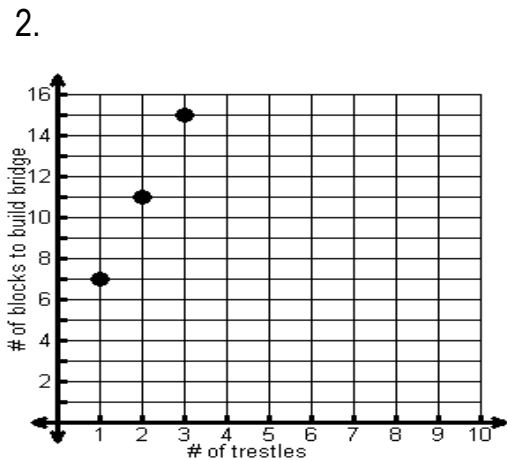
9. C

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Pattern Activity 11 - Page 25

1.

Term # (# of trestles)	Process	# of blocks to build bridge
1	$3(1)+2$	5
2	$3(2)+2$	8
3	$3(3)+2$	11
4	$3(4)+2$	14
5	$3(5)+2$	17
n	$3n+2$	



3. Independent: # of trestles

Dependent: # of blocks to build the bridge

4. positive

5. Possible Answer: Domain: 1 to 15 trestles or $\{1 \leq x \leq 15\}$

Range: 5 to 47 blocks

Domain		Range
1	$3(1)+2$	7
15	$3(15)+2$	47

6. Rate: 3

Fixed Number: 2

Function rule: $F(n)=3n+2$

7. a. 14

b. 17

c. 32

d. 152

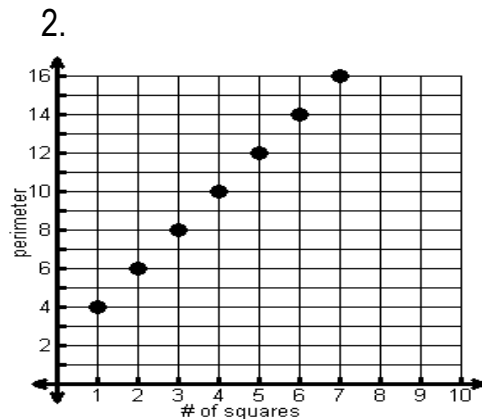
e. 15

f. 40

Pattern Activity 12

1.

Term # (# of squares)	Process	perimeter
1	$2(1)+2$	4
2	$2(2)+2$	6
3	$2(3)+2$	8
4	$2(4)+2$	10
5	$2(5)+2$	12
n	$2n+2$	



3. Independent: # of squares

Dependent: perimeter

4. positive

5. Possible Answer: Domain: 1 to 20 squares or $\{1 \leq x \leq 20\}$

Range: perimeter of 4 to 42 units or $\{4 \leq y \leq 42\}$

6. Rate: 2

Fixed number: 2

Function Rule: $f(x)=2x+1$

7. a. 10

b. 12

c. 22

d. 102

e. 20

f. 59

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Patterns in Word Problems, page 26

1.

Design #		# of rocks
1	$4(1)-3$	1
2	$4(2)-3$	5
3	$4(3)-3$	9

2. Graph

3. Independent is design number,

Dependent is number of rocks

4. Domain: 1 to 10, Range: 1 to 37

5. $y=25$

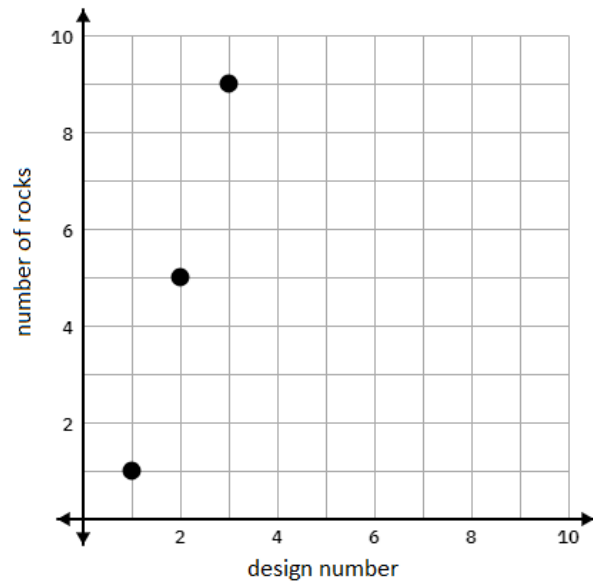
6. $x = 10$

7. $x = 6$

8. $x = -13$

9. $x = -3$

10. $x = -60$



Pattern Set 1-5, p 27

1. a.

Truck #	process	# of cubes
1		5
2		7
3		9
4		11

b. Independent: Truck #

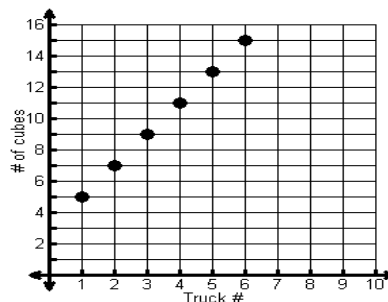
Dependent: # of cubes

c. Positive

d. Rate of change: 2

Fixed number: 3

Function rule: $f(x) = 2x + 3$



e. Answers may vary, but the domain and range must match. Possible answer: Domain of 1 to 10 trucks and range of 5 to 23 cubes.

f. 50th term: $f(50) = 2(50) + 3 = 103$

g. $f(x) = 101$ $2x + 3 = 101$

$$x = 49$$

2. a.

Day#	process	Amount of \$
0		20
1		18
2		16
3		14
4		12

b. Independent: Day #

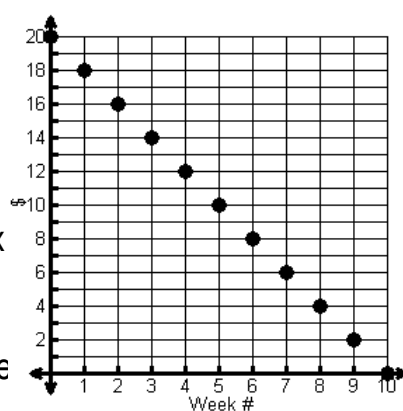
Dependent: Amount of \$

c. negative

d. Rate of change: -2

Fixed number: 20

Function rule: $f(x) = 20 - 2x$
or $-2x + 20$



e. Domain: 0 to 10 days, Range: \$0 to \$20

f. $f(12) = -2(12) + 20 = -4$, this does not fit in the domain, because

g. $f(x) = 8$, $-2x + 20 = 8$ On the 6th day.

$$x = 6$$

3. a.

$$3x - 1 = -4$$

$$x = -1$$

b.

$$2x + 3 = -5$$

$$x = -4$$

4.

a. 9

b. -6

c. -3

d. 15

e. -9

f. 11

g. 5

h. 6

i. 10

5.

a. -1

b. -9

c. -3

6.

a. Shaking the soda

b. Spewing

c. Shaking a soda determines that it will spew.

d. A spewing soda depends on being shaken.

e. A spewing soda is a function of being shaken.

7. A

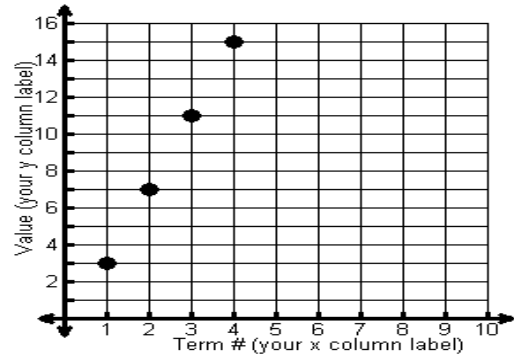
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Pattern Activity 13 - Page 29

1. For the drawings, Answers may vary.

Term #	Process	Value
1	$4(1)-1$	3
2	$4(2)-1$	7
3	$4(3)-1$	11
4	$4(4)-1$	15
5	$4(5)-1$	19
n	$4n-1$	

2.



3. Independent: Term # (the x column)

Dependent:

Value (the y column)

4. Positive

5. Answers may vary, but make sure the domain and range match.

6. 4

7. -1

8. a. 39

b. 59

c. 199

d. 16

e. 27

Pattern Activity 14 Check

students answers.

Color by Equation - Page 31

1. $x = 4$

6. $x = 6$

2. $x = 5$

7. $x = 7$

3. $x = 1$

8. $x = 8$

4. $x = 9$

9. $x = 3$

5. $x = 10$

10. $x = 2$