Name: _____ Date: _____

....BLM 6–5....

# Target E-1 Extra Practice

**1. a)** Draw the next two figures in this series.

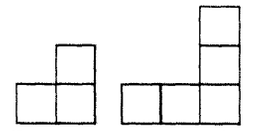

Figure 1 Figure 2

**b)** Create a table of values comparing the number of squares and the figure number.

**c)** Describe the pattern.

**d)** Write the equation that represents this pattern.

**e)** How many squares are in Figure 15?

**f)** Which figure number has 69 squares?

**2.** A number pattern starts at 1.5. Each number after that is four more than the number before.

**a)** Make a table of values for the first five terms.

**b)** Develop an equation that can be used to determine the value of each term in the pattern.

**c)** What is the value of the 95th term?

**d)** Which term has a value of 237.5?

**3.** What linear equation models the relationship between the values in each table?

**a)**

| *d* | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| *t* | 11 | 16 | 21 | 26 |

**b)**

| *c* | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| *r* | −2.1 | −0.6 | 0.9 | 2.4 |

**4.** On top of the $45 monthly fee, Sam's cell phone plan charges $0.15 for every text message he sends or receives.

**a)** Develop an equation to calculate the monthly bill.

**b)** Complete a table of values comparing the number of text messages and the monthly cost.

**c)** What would Sam's bill be if there were 20 text messages in a month?

**d)** If Sam budgets $80 a month for his cell phone, how many text messages can he send or receive each month? Explain.

Name: _____ Date: _____



**Extra Practice Answers**

**1. a)**

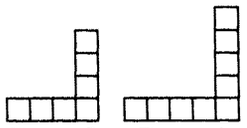

Figure 3 Figure 4

**b)**

| **Figure Number, *f*** | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **Number of Squares, *s*** | 3 | 5 | 7 | 9 |

**c)** Each figure contains two more squares than the previous one.
**d)** $s = 2f + 1$ **e)** 31 **f)** 34

**2. a)**

| **Figure Number, *f*** | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| **Value, *v*** | 1.5 | 5.5 | 9.5 | 13.5 | 17.5 |

**b)** $v = 4f - 2.5$ **c)** 377.5 **d)** 60
**3. a)** $t = 5d + 11$ **b)** $r = 1.5c - 3.6$
**4. a)** $m = 45 + 0.15t$
**b)** Example:

| **Monthly Bill, *m*** | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **Number of Text Messages, *t*** | 3 | 5 | 7 | 9 |

**c)** \$48 **d)** 233 messages; the \$0.05 remainder is not enough for a text message

Target E-1

# Extra Practice 1

## Lesson 4.1: Writing Equations to Describe Patterns

**1.** In each equation, determine the value of $A$ when $n$ is 3.

**a)** $A = 2n + 1$ **b)** $A = 3n - 2$

**c)** $A = 4n + 3$ **d)** $A = 30 - 2n$

**2.** The pattern in this table continues. Which equation below relates the figure number $n$, to the perimeter of the figure $P$?

| Figure Number, $n$ | Perimeter, $P$ |
|---|---|
| 1 | 7 |
| 2 | 10 |
| 3 | 13 |
| 4 | 16 |

**a)** $P = 3n + 7$ **b)** $P = 7n + 3$

**c)** $P = 3n + 4$ **d)** $n = 3P + 7$

**3.** The pattern in each table below continues. For each table:

**i)** Describe the pattern that relates $v$ to $t$.

**ii)** Write an equation that relates $v$ to $t$.

**iii)** Verify your equation by substituting values from the table.

**a)**

| Term Number, $t$ | Term Value, $v$ |
|---|---|
| 1 | 8 |
| 2 | 13 |
| 3 | 18 |
| 4 | 23 |

**b)**

| Term Number, $t$ | Term Value, $v$ |
|---|---|
| 1 | 34 |
| 2 | 31 |
| 3 | 28 |
| 4 | 25 |

**4.** Rachel takes care of homes during the summer while their owners are away on vacation. She charges \$8, plus \$2.50 a day.

**a)** Create a table that shows the charges when the owners are away for up to 5 days.

**b)** Write an equation that relates the charge, $C$ dollars, to the number of days, $n$, that the owners are away.

**c)** What will the charge be when the owners are away for 14 days?

**d)** How many days were the owners away when the charge was \$33?

# Extra Practice 1

## Lesson 4.1

**1.** **a)** 7 **b)** 7
**c)** 15 **d)** 24

**2.** The correct equation is $P = 3n + 4$.

**3.** **a)** i) The first term is 8 and as $t$ increases by 1, $v$ increases by 5.
ii) $v = 5t + 3$
**b)** i) The first term is 34 and as $t$ increases by 1, $v$ decreases by 3.
ii) $v = 37 - 3t$

**4.** **a)**

| Number of Days Away, $n$ | Charge, $C$ ($) |
|---|---|
| 1 | 10.50 |
| 2 | 13.00 |
| 3 | 15.50 |
| 4 | 18.00 |
| 5 | 20.50 |

**b)** $C = 2.5n + 8$
**c)** $43
**d)** 10 days