

**ANSWER KEY**

**Algebra I** | **LESSON 2-3**

**Activities, Games, and Puzzles**

**1.** 6; I

**2.** 10; C

**3.** 4; H

**4.** 1; A

**5.** 13; N

**6.** 2; G

**7.** 20; E

**8.** 5; B

**9.** 22; U

**10.** 23; T

**11.** 13; N

**12.** 11; O

**13.** 23; T

**14.** 1; A

**15.** 23; T

**16.** 1; A

**17.** 10; C

**18.** 11; O

**19.** 13; N

**20.** 24; S

**21.** 23; T

**22.** 1; A

**23.** 13; N

**24.** 23; T

**25.** 26; R

**26.** 1; A

**27.** 23; T

**28.** 20; E

**Puzzle Solution:** I CHANGE BUT NOT AT A CONSTANT RATE

**Additional Vocabulary Support**

|  |  |
| --- | --- |
| Functions:  Linear Functions: | Each input is paired with exactly one output. A function whose graph is a line or part of a line These graphs represent constant rates of change. |
| Nonlinear Functions: | A function whose graph is not a line or part of a line The graph can be a curve. The points do not lie on a line. |

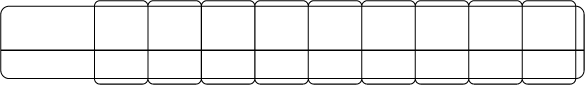
**1**

Copyright © by Pearson Education, Inc., or its affiliates. All Rights Reserved.



**ANSWER KEY**

**Enrichment**



|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Triangular Number** | **1** | **2** | **3** | **4** | **5** | **6** | **10** | **20** | **100** |
| **1.** | **Dots** | **1** | **3** | **6** | **10** | **15** | **21** | **55** | **210** | **5050** |

**2.** The graph will be linear if the differences in the number of dots between consecutive  
triangular numbers is constant.



**3.**

**4.** 

**Practice Form G**

**1.**

**2**

Copyright © by Pearson Education, Inc., or its affiliates. All Rights Reserved.



**ANSWER KEY**

**2.**

**3.**

**4.** *y* = 3*x*

**5.** *y* = *x*2

**6.** *y* = 0.5*x*

**7.** *y* = *x*3

**8.** nonlinear; There is a squared term in the function.

**9.** independent: *r*; dependent: *C*; The circumference of a circle depends on its radius.

**10.** *y* = *x*2 − 2; The graph of the ordered pairs makes it clear that the function is nonlinear.  
The output is two less than the square of the input.

**11.** 

**3**

Copyright © by Pearson Education, Inc., or its affiliates. All Rights Reserved.



**ANSWER KEY**

**Practice Form K**



**1.**

linear



**2.**

nonlinear



**3.**

linear

**4.** *y* = *x*2

**5.** *y* = 4*x* + 1

**6***. y* = *x*3 − 1

**7***. y* = −*x* + 2

**8.**If the function is linear, the graph will form a straight line. If the function is nonlinear,  
the graph will not form a straight line.

**9.** The student used only the first and third sets of points to write the rule; a rule that  
represents the entire table is *y* = 2*x* − 1.

**4**

Copyright © by Pearson Education, Inc., or its affiliates. All Rights Reserved.



**ANSWER KEY**

**Reteaching**

**1.** linear;



**2.** linear;



**3.** nonlinear;



**4.** nonlinear;



**5**

Copyright © by Pearson Education, Inc., or its affiliates. All Rights Reserved.



**ANSWER KEY**

**5.** nonlinear;

**6.** linear;



**7.** *y* = 5*x*

**8.** *y* = 2*x* + 1

**9.** *y* = *x*3

**10.** *y* = *x*2 + 1

**Think About a Plan**

**1.** a square and a circle

**2.** *A* = *s*2; *A* = *πr*2

**3.** *A* = 4*r*2

**4.** *A* = *πr*2

**5.** Subtract the area of the circle from the area of the square.

**6.** *A* = 4*r*2 − *πr*2 = (4 – *π*)*r*2

**6**

Copyright © by Pearson Education, Inc., or its affiliates. All Rights Reserved.