Review of Geometry – Workbook 6, Part 2

Worksheet G6-21

1. a) 3 2 1
   b) 3 2 1
   c) 3 2 1
   d) 3 2 1
   e) 3 2 1
   f) 3 2 1
   g) 3 2 1
   h) 3 2 1
   2. a) 3 2 1
      b) C  B  A
      c) 2 1 0
      3. 5 4 3 2 1

4. a) 3 2 1
    b) 3 2 1
    c) 3 2 1
    d) 3 2 1
    e) 3 2 1
    f) 3 2 1

5. 7 6 5 4 3 2 1 0

6. ERRATA:
   Points marked on the x-axis should be (0,0) and (0,5,0).
   Answer:
   B (0,5)  C (0,10)
   D (5,10)

7. A (2,1)  B (8,1)
   C (9,4)  D (6,3)
   E (0,0)  F (2,3)
   G (3,5)  H (5,0)

8. a) triangle
    b) pentagon

9. a) A (1,4)  B (1,2)
    b) A (2,1)  B (4,3)

BONUS

10. Answers will vary – teacher to check.

Worksheet G6-22

1. a) 4 units right
    b) cliff

2. a) 3 units right
    2 units down

3. a) square
    b) parallelogram
    c) trapezoid
    d) rhombus

Worksheet G6-23

1. a) 4 units right
    b) 3 units left
    c) 2 units right

2. a) 4 units right
    2 units down

3. a) cliff

4. Teacher to check.

5. a) A’ (4,5)  B’ (4,7)
     C’ (6,7)
     D’ (6,5)
     b) A’ (7,4)  B’ (6,2)
     C’ (9,1)

Worksheet G6-24

1. a) 4 units right
    2 units down

2. a) 3 units right
    2 units down

3. a) hill
    b) cliff
    c) (A,1)

4. Teacher to check.

5. a) cliff

6. a) cliff

Worksheet G6-25

1. a) C
    b) A
    c) B
    d) 1 unit left
    2 units up
    e) 4 units right
    1 unit up
    f) 1 unit right
    4 units down

2. a) hill
    b) cliff
    c) (A,1)

3. a) 2 km west
    1 km south
    e) 4 km east
    2 km north

Worksheet G6-26

1. a) cliff

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Selected Answer Key – Workbook 6
b) 

![Diagram](image1)

c) 

![Diagram](image2)

2. a)

![Diagram](image3)

b)

![Diagram](image4)

c) 

![Diagram](image5)

BONUS

3. Answers will vary – teacher to check.

4. a)

![Diagram](image6)

b)

![Diagram](image7)

c) 

![Diagram](image8)

d) 

![Diagram](image9)

e) 

![Diagram](image10)

f) 

![Diagram](image11)

g) 

![Diagram](image12)

h) 

![Diagram](image13)

2. a) \( \frac{1}{4} \) turn clockwise

b) \( \frac{1}{2} \) turn clockwise

c) \( \frac{3}{4} \) turn clockwise

d) 1 turn clockwise

e) \( \frac{1}{2} \) turn clockwise

f) \( \frac{1}{4} \) turn clockwise

g) 1 turn counter cw

h) \( \frac{1}{2} \) turn clockwise

i) \( \frac{1}{2} \) turn counter cw

j) \( \frac{1}{4} \) turn clockwise

k) \( \frac{1}{4} \) turn counter cw

l) \( \frac{1}{2} \) turn counter cw

3. a) \( \frac{1}{4} \) turn clockwise

b) \( \frac{3}{4} \) turn clockwise

c) \( \frac{1}{2} \) turn clockwise

d) \( \frac{1}{4} \) turn clockwise

4. a) \( \frac{1}{4} \) turn counter cw

b) \( \frac{1}{4} \) turn counter cw

c) \( \frac{3}{4} \) turn counter cw

d) \( \frac{1}{2} \) turn counter cw

5. a)

![Diagram](image14)

b)

![Diagram](image15)

c) 

![Diagram](image16)

Worksheet G6-27

page 326

1. a) \( \frac{1}{4} \)

b) \( \frac{1}{2} \)

c) \( \frac{3}{4} \)

Worksheet G6-28

page 327

1. a)

![Diagram](image17)

b)
3. Answers will vary – teacher to check.

Worksheet G6-31
page 330

1. a)  

2. a)  

3. Answers will vary – teacher to check.

Worksheet G6-32
page 331

1. a) (i) slide
(ii) reflection
(iii) slide
b) Yes
c) Reflect Shape C across the Line AC, the slide down.

2. Slide and reflection

3. A: reflection
B: 90° rotation counter clockwise
C: slide 5 units to the left, or reflection

Worksheet G6-33
page 332

1. Teacher to check shape construction.

2. **ERRATA:**
   Question should read, "Use the pattern to fill in the row for the hexagonal pyramid."

   **Answer:**
   
   - # sides increases by one each time
   - # edges increases by two each time
   - # vertices increases by one each time

   See Question 1 for answer, re: hexagonal pyramid.
3. Answers may vary — teacher to check.
   Possible answer:
   The number of edges of a pyramid is a double the number of sides of its base. The number of vertices of a pyramid is one more than the number of sides of its base.

4. An octagonal pyramid would have 16 edges and 9 vertices.

Worksheet G6-34

1. Teacher to check shape construction.

<table>
<thead>
<tr>
<th>Base</th>
<th>S</th>
<th>E</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>T.P.</td>
<td>3</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>C.</td>
<td>4</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>P.P.</td>
<td>5</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>H.P.</td>
<td>6</td>
<td>18</td>
<td>12</td>
</tr>
</tbody>
</table>

2. 
   - # sides increases by one each time
   - # edges increases by three each time
   - # vertices increases by two each time

   See Question 1 for answer, re: hexagonal prism.

3. Answers may vary — teacher to check.
   Possible answer:
   The number of edges of a prism is three times larger than the number of sides of its base. The number of vertices of a prism is double the number of sides of its base.

4. An octagonal prism has 24 edges and 16 vertices.

Worksheet G6-35

1. Teacher to check.

2. a) 12
   b) 6
   c) 8
   d) 15
   e) 10
   f) 9
   g) 12
   h) 18

3. a) 8
   b) 4
   c) 5
   d) 10

4. Teacher to check.

5. Teacher to check.

6. Teacher to check.

Worksheet G3-36

1. a) 6
   b) 6
   c) 6
   d) 4
   e) 5
   f) 8
   g) 5
   h) 5

2. a) A | B | C | D | E
     
     # F | 5 | 4 | 6 | 6 | 5
     
     # V | 5 | 4 | 8 | 8 | 6
     
     # E | 8 | 6 | 12| 12| 9

b) Shapes C and D have the same number of faces, vertices and edges. Both shapes are quadrilateral prisms.

Worksheet G6-37

1. a) 
   b) 

2. a) A | B | C | D | E
     
     # F | 5 | 4 | 6 | 6 | 5
     
     # V | 5 | 4 | 8 | 8 | 6
     
     # E | 8 | 6 | 12| 12| 9

b) A triangular prism and a square pyramid are the same in that both shapes have 5 faces.

Worksheet G6-38

1. From left to right:
   X X O O X O X O

2. From left to right:
   rectangular prism
   square pyramid
   cone
   cylinder
   triangular pyramid
   triangular prism

3. a) TP | SP | S | D
     
     # faces | 5 | 5 | √
     
     shape of base | △ | □ | √
     
     # bases | 2 | 1 | √
     
     # faces that are not bases | 3 | 4 | √
     
     # edges | 9 | 8 | √
     
     # vertices | 6 | 5 | √

b) A triangular prism and a square pyramid are the same in that both shapes have 5 faces.

4. a) E | V | F
     
     Triangular Pyramid | 6 | 4 | 4
     
     Rectangular Prism | 12 | 8 | 6
     
     Triangular Prism | 9 | 6 | 5
     
     Square Pyramid | 8 | 5 | 5

Pictures of Faces:

Worksheet G6-39

1. From left to right:
   X X O O X O X O

2. From left to right:
   rectangular prism
   square pyramid
   cone
   cylinder
   triangular pyramid
   triangular prism

3. a) TP | SP | S | D
     
     # faces | 5 | 5 | √
     
     shape of base | △ | □ | √
     
     # bases | 2 | 1 | √
     
     # faces that are not bases | 3 | 4 | √
     
     # edges | 9 | 8 | √
     
     # vertices | 6 | 5 | √

b) A triangular prism and a square pyramid are the same in that both shapes have 5 faces.

4. a) E | V | F
     
     Triangular Pyramid | 6 | 4 | 4
     
     Rectangular Prism | 12 | 8 | 6
     
     Triangular Prism | 9 | 6 | 5
     
     Square Pyramid | 8 | 5 | 5

Pictures of Faces:
b) The number of vertices in each pyramid is one greater than its number of sides.

c) The number of vertices in each prism is twice the number of sides in its base.

5. Teacher to check.
6. Teacher to check.

Worksheet G6-39 page 341

1. a) Triangle Pyramid
   b) Square Pyramid
   c) Pentagonal Pyramid
   d) Triangular Prism
   e) Cube
   f) Pentagonal Prism

Name | F | E
--- | --- | ---
Triangular Pyramid | 4 | 6
Square Pyramid | 5 | 8
Pentagonal Pyramid | 6 | 10
Triangular Prism | 5 | 9
Cube | 6 | 12
Pentagonal Prism | 7 | 15

2. Teacher to check.
   a) Since each has one base surrounded by triangles, we know that the nets are pyramids.

3. Teacher to check.
   a) Quadrilateral (square or rectangle)
   b) Since there are two congruent faces (bases) edged with rectangles attached, the nets are prisms.

Worksheet G6-40 page 343

1. a) Property | Figures
   1. B, D, E
   2. A, C, E, F
   b) E
   c) B, D, E, A, C, F

2. a) Property | Figures
   1. A, C, D
   2. A, C, F
   b) A, C
   c) D, A, E, F

3. Answers will vary – teacher to check.

Worksheet G6-41 page 344

1. a) Property | Figures
   1. B, D, E
   2. A, C, E, F
   3. Answers will vary – teacher to check.

2. a) Property | Figures
   1. A, C, D
   2. A, C, F
   3. Answers will vary – teacher to check.

3. Answers will vary – teacher to check.

Worksheet G6-42 page 346

Teacher to check.

Worksheet G6-43 page 347

1. Teacher to check.
2. a) 180° rotation and reflection
   b) Slide 1 unit right and reflection
   c) 90° rotation clockwise and reflection
   d) 1 to 2: reflection
   e) The pattern in c) can be produced from both a slide and a reflection.

7. Answers will vary – teacher to check.
b)   3
2 1 1
1

c) 1 1 1
1 3 1
1

3. a) 1 4 1
1 1 1
1 1 1

b) 2 1 3
1 1

Worksheet G6-45
page 349

1. a) 

b) (1,1) (5,2) (5,4) (1,3)

2. a) 

b) 

f) - o) Answers will vary – teacher to check

3. E: cone
   B: triangular prism
   A: cube
   D: cylinder
   C: triangular pyramid

4. Answers will vary – teacher to check.

5. Answers will vary – teacher to check.

6. Answers will vary – teacher to check.

Worksheet G6-44
page 348

1. Answers will vary – teacher to check.

2. Answers will vary – teacher to check.

3. 

4. Teacher to check.

5. Teacher to check.

6. Teacher to check.