

Worksheet PA6-1
page 1

- Gap = 3; 11, 14, 17
 - Gap = 6; 19, 25, 31
 - Gap = 5; 17, 22, 27
 - Gap = 4; 16, 20, 24
 - Gap = 5; 16, 21, 26
 - Gap = 6; 22, 28, 34
 - Gap = 10; 32, 42, 52
 - Gap = 8; 31, 39, 47
 - Gap = 3; 40, 43, 46
 - Gap = 6; 110, 116, 122
 - Gap = 11; 45, 56, 67
 - Gap = 8; 24, 32, 40
- 23 cm
 - 5 days

Worksheet PA6-2
page 2

- Gap = - 3; 9, 6, 3
 - Gap = - 6; 14, 8, 2
 - Gap = - 5; 37, 32, 27
 - Gap = - 4; 22, 18, 14
 - Gap = - 5; 36, 31, 26
 - Gap = - 4; 72, 68, 64
 - Gap = - 11; 29, 18, 7
 - Gap = - 8; 73, 65, 57
 - Gap = - 7; 50, 43, 36
 - Gap = - 4; 50, 46, 42

- Gap = - 9; 55, 46, 37
- Gap = - 12; 48, 36, 24

- \$9
- 46 stamps

Worksheet PA6-3
page 3

- 49, 53, 57
 - 76, 84, 92
 - 80, 83, 86
 - 42, 53, 64
 - 77, 85, 93
 - 53, 64, 75
- 19, 16, 13
 - 30, 28, 26
 - 73, 67, 61
 - 65, 53, 41
 - 41, 33, 25
 - 43, 37, 31
- Answers will vary – teacher to check.
- c)
- Sanjukta is right.

Worksheet PA6-4
page 4

- 5
 - 3
 - 6
 - 7
 - 5
 - 3
- 2
 - 5
 - 1
 - 3
 - 6
 - 2
- Subtract 7
 - Add 8
 - Add 4
 - Subtract 11
 - Subtract 11
 - Add 9
 - Add 8
 - Subtract 6

- 67, 72, 77; Add 5
 - 69, 66, 63; Subtract 3
 - 860, 872, 884; Add 12
 - 1301, 1292, 1283; Subtract 9
- Hannah
 - Tim – subtracts instead of adds; Jack – adds 5 instead of 6.

Worksheet PA6-5
page 5

- Start at 2 and add 6 each time.
 - Start at 3 and add 6 each time.
 - Start at 1 and add 5 each time.
 - Start at 1 and add 7 each time.
 - Start at 5 and add 8 each time.
 - Start at 11 and add 11 each time.
 - Start at 3 and add 9 each time.
 - Start at 6 and add 7 each time.
 - Start at 7 and add 6 each time.
- 42
 - 29
 - 27
- Yes (31)
 - No (39)
 - Yes (33)
- 19 shapes needed
 - 11 shapes needed

Worksheet PA6-6
page 7

- 8
 - 13
 - 9

Figure	Line Segments
1	9
2	17
3	25

- 33
 - 41
- | Figure | Tri. | Seg. |
|--------|------|------|
| 1 | 3 | 7 |
| 2 | 6 | 13 |
| 3 | 9 | 19 |
| 4 | 12 | 25 |
- 31
 - 37
- 33 cm
 - \$69
 - 3 L
 - 9 L
 - 7 hours
 - \$32
 - 14 triangles
 - No (she needs 16)
 - Merle (who saved \$85; Alex saved \$77)

Worksheet PA6-7
page 9

- 23
 - 66
- No
- 16
 - 16, 21
 - 18, 21, 27
 - 62, 65, 68
- Table 1:
Rule – Add 2.
3 – 17

ERROR:
The second term should be changed from 30 to 29.

Table 2:
Rule – Add 4.
3 – 33

 - 42 pentagons
 - 72 triangles and 36 pentagons
 - 72 triangles

6. a) i) a baby
ii) tiger
b) 4 weeks
= 28 days



Worksheet PA6-8
page 10

1. a) Circle first 4
b) Circle first 4
c) Circle first 4
d) Circle first 4
e) Z G H H U
f) 1 2 4 8
g) 9 3 3 9 8
h) Circle first 5
i) Circle first 4
j) Z Y Z
2. Teacher to check the continuation.
a) **ERROR:**
Please ignore question – there is no core in this pattern.
b) Circle first 3
c) 4 5 4 6 1
d) 2 2 0
e) A A C
f) 2 6 2
3. Teacher to check, answers will vary.

Worksheet PA6-9
page 11

1. Teacher to check.
2. a) Yes
b) Yes
c) Yes
d) No
e) No
f) Yes
3. a) Yes
b) Yes
c) No (Core is 1st four blocks)
d) No (Core is 1st four blocks)
e) Yes
f) No (Core is 1st five blocks)

4. a) Core is 1st five blocks.
b) Core is 1st three blocks.
c) Core is 1st four blocks.
d) Core is 1st four blocks.
5. a) Y Y B
b) Y B Y Y
c) B Y Y B
d) B B Y B
e) Y B B B Y B
f) B Y B B

6. Yellow
7. Red
8. Blue
9. Blue
10. Sun
11. Teacher to check, answers will vary.
12. a) 10¢
b) \$2.50
13. Red cylinder
14. a) 
b) 

Worksheet PA6-10
page 14

1. 3 km
2. 100 km
3. 15 L
4. 25 km
5. 25 km
6. 3 m
7. 3 hours
8. 30 cm
9. 12 m

Worksheet PA6-11
page 16

1. a) 12
b) 12
2. b) 20
c) 9
d) 6

- e) 10
f) 6
g) 12
h) 8
i) 40
j) 15
k) 30
l) 30
m) 24
n) 18

3. 24th day

Worksheet PA6-12
page 17

1. a) + 4, - 2, + 7, - 4
b) + 4, - 1, + 4, - 5
c) + 4, + 3, + 10, + 6
d) + 4, - 1, - 6, + 9
e) + 2, + 2, - 1, + 5
f) - 1, + 3, - 9, + 1
g) - 7, + 5, - 6, - 6
h) + 3, - 7, + 8, - 5
2. a) B; A
b) A; B
c) C; B; A
d) C; A; D; B
3. a) Start at 4 and add 3
b) Start at 23 and add 6
c) Start at 28 and subtract 3
d) Start at 53 and subtract 5
4. a) Start at 9 and add 5.
b) Start at 27 and subtract 8.
c) This sequence has no rule.
d) Start at 81 and add 4.
5. a) Increases
b) Repeats
c) Decreases
d) Increases
e) Repeats
f) Decreases

6. a) 38, 42, 46, 50, 54
b) 67, 61, 55, 48, 42
c) 98, 105, 112, 119, 126
7. Teacher to check, answers will vary.
8. Teacher to check, answers will vary.
9. Teacher to check, answers will vary.

Worksheet PA6-13
page 19

1. Teacher to check.
2. a) Across rows:
add 2
Down columns:
add 4
Diagonal (l to r):
add 6
Diagonal (r to l):
add 2
b) Across rows:
add 6
Down columns:
add 6
Diagonal (l to r):
add 12
Diagonal (r to l):
stay the same
c) Across rows:
add 4
Down columns:
subtract 4
Diagonal (l to r):
stay the same
Diagonal (r to l):
subtract 8
3. to 4. Teacher to check.
5. a) 3rd row
b) 5th column
c) Start at 0 and add 5;
Start at 4 and add 2
d) 4th column is 2 less than the 3rd column.
e) Teacher to check, answers will vary.
f) 1st, 2nd, 4th or 5th row

Worksheet PA6-14 page 20

- 15
- | | | |
|---|---|---|
| 2 | 7 | 6 |
| 9 | 5 | 1 |
| 4 | 3 | 8 |
 - | | | |
|----|----|----|
| 6 | 13 | 8 |
| 11 | 9 | 7 |
| 10 | 5 | 12 |
 - | | | |
|----|----|----|
| 6 | 20 | 10 |
| 16 | 12 | 8 |
| 14 | 4 | 18 |
- The number at the top of the pyramid is the sum of the two numbers beneath it.
- 6
 - 8
 - 11
 - 3
 - 4
 - | |
|-------|
| 13 |
| 5 8 |
| 2 3 5 |
 - | |
|-------|
| 17 |
| 10 7 |
| 6 4 3 |
 - | |
|-------|
| 15 |
| 7 8 |
| 2 5 3 |
 - | |
|---------|
| 45 |
| 26 19 |
| 17 9 10 |
 - | |
|---------|
| 32 |
| 14 18 |
| 11 3 15 |
 - | |
|-----------|
| 75 |
| 35 40 |
| 19 16 24 |
| 11 8 8 16 |
 - | |
|-----------|
| 63 |
| 29 34 |
| 17 12 32 |
| 13 4 8 24 |
 - | |
|-----------|
| 115 |
| 73 42 |
| 58 15 27 |
| 50 8 7 20 |

Worksheet PA6-15 page 21

- Teacher to check.
- $4 \times s = t$
 - $5 \times s = t$
 - $2 \times s = t$
 - $6 \times s = t$
- | squares | rectangles |
|---------|------------|
| 1 | 4 |
| 2 | 8 |
| 3 | 12 |

$4 \times s = r$
 - | rectangles | triangles |
|------------|-----------|
| 1 | 6 |
| 2 | 12 |
| 3 | 18 |

$6 \times r = t$
 - | squares | rectangles |
|---------|------------|
| 1 | 8 |
| 2 | 16 |
| 3 | 24 |

$8 \times s = r$
 - | squares | triangles |
|---------|-----------|
| 1 | 8 |
| 2 | 16 |
| 3 | 24 |

$8 \times s = t$
 - | squares | triangles |
|---------|-----------|
| 1 | 10 |
| 2 | 20 |
| 3 | 30 |

$10 \times s = t$
 - | squares | triangles |
|---------|-----------|
| 1 | 12 |
| 2 | 24 |
| 3 | 36 |

$12 \times s = t$
- No, Wendy would need 42 triangles (skip count by 6s seven times).
- 6. Teacher to check, answers will vary.

- | Row | Chairs |
|-----|--------|
| 1 | 7 |
| 2 | 8 |
| 3 | 9 |
 - | Row | Chairs |
|-----|--------|
| 1 | 10 |
| 2 | 11 |
| 3 | 12 |
- Add 7; $r + 7 = c$
 - Add 8; $r + 8 = c$
 - Add 5; $r + 5 = c$
- | Row | Chairs |
|-----|--------|
| 1 | 5 |
| 2 | 6 |
| 3 | 7 |

$r + 4 = c$
 - | Row | Chairs |
|-----|--------|
| 1 | 2 |
| 2 | 3 |
| 3 | 4 |

$r + 1 = c$
- | Input | Output |
|-------|--------|
| 1 | 5 |
| 2 | 6 |
| 3 | 7 |
| 5 | 1 |
| 6 | 2 |
| 7 | 3 |
| 3 | 18 |
| 5 | 30 |
| 6 | 36 |
| 32 | 8 |
| 8 | 2 |
| 40 | 10 |
| 18 | 28 |
| 19 | 29 |
| 20 | 30 |
| 4 | 32 |
| 5 | 40 |
| 6 | 48 |
- Add 4 to each input.
 - Add 5 to each input.
 - Multiply the input by 7.

- Multiply the input by 5.
- Multiply the input by 8.
- Subtract 3 from each input.

Worksheet PA6-16 page 25

- | Vertical Lines | Horizontal Lines |
|----------------|------------------|
| 1 | 3 |
| 2 | 6 |
| 3 | 9 |

Multiply the input by 3.
- | Crosses | Triangles |
|---------|-----------|
| 1 | 2 |
| 2 | 4 |
| 3 | 6 |

Multiply the input by 2.
- | Suns | Moons |
|------|-------|
| 1 | 2 |
| 2 | 3 |
| 3 | 4 |

Add 1 to the input.
- | Light Hexagons | Dark Hexagons |
|----------------|---------------|
| 1 | 2 |
| 2 | 4 |
| 3 | 6 |

Multiply the input by 2.
- | Diamonds | Stars |
|----------|-------|
| 1 | 2 |
| 2 | 3 |
| 3 | 4 |

Add 1 to the input.
- | Hexagons | Triangles |
|----------|-----------|
| 1 | 2 |
| 2 | 4 |
| 3 | 6 |

Multiply the input by 2.
- 18 hexagons are needed (skip count by 2's nine times).

Worksheet PA6-17

page 26

- $3 \times$ Figure Number
 - $2 \times$ Figure Number
 - ERROR:**
Ignore question or point out it's not a direct variation.
 - $3 \times$ Figure Number
- Circle a) and c).

Worksheet PA6-18

page 27

- $2 \times$ FN
 - $2 \times$ FN + 1
 - $4 \times$ FN
 - $4 \times$ FN + 2
 - $2 \times$ FN
 - $2 \times$ FN + 1
 - $3 \times$ FN
 - $3 \times$ FN + 2
 - $3 \times$ FN
 - $3 \times$ FN + 1
- Teacher to check.

Worksheet PA6-19

page 28

- | | Input | Output |
|----|-------|--------|
| a) | 1 | 7 |
| | 2 | 11 |
| | 3 | 15 |
| b) | 1 | 5 |
| | 2 | 7 |
| | 3 | 9 |
| c) | 1 | 9 |
| | 2 | 14 |
| | 3 | 19 |
| d) | 1 | 11 |
| | 2 | 21 |
| | 3 | 31 |

 - The gap is equal to the amount multiplied by.
- Teacher to check.

Worksheet PA6-20

page 29

- Multiply by 4 and add 5
 - Multiply by 2 and add 1
 - Multiply by 3 and add 4
 - Multiply by 2 and add 4
- Multiply by 5 and add 4
 - Multiply by 6 and add 6
 - Multiply by 4 and add 2
 - Multiply by 5 and add 1
- Multiply by 5 and subtract 1
 - Multiply by 3 and subtract 2
 - Multiply by 4 and subtract 2
 - Multiply by 6 and subtract 1
- Multiply by 5 and subtract 3
 - Multiply by 6 and subtract 3
 - Add 4
 - Multiply by 2 and add 5
 - Multiply by 4 and add 4
 - Multiply by 4
- Multiply by 5 and add 2
 - Multiply by 2 and subtract 1
 - Add 6
 - Multiply by 3 and add 1
 - Multiply by 3 and add 1
 - Multiply by 2 and subtract 3

Worksheet PA6-21

page 32

- $2 \times$ FN + 2
Figure 9:
20 triangles
 - $2 \times$ FN + 1
Figure 11:
23 line segments
 - $2 \times$ FN + 1
Figure 10:
21 squares
 - $5 \times$ FN + 1
Figure 23:
perimeter of 116