d) 1, 2, 5, 14, 41, 125

4. 5 days

5. b) the sixth figure

c) 20 white squares, 16 shaded squares

6. b) 16 circles

Chapter 5

5.1 Area of a Parallelogram

1. a) 4 units **b)** 6 units **c)** 24 units squared

2. a) 15 cm^2 **b)** 8 m **c)** 5 cm **d)** 16.96 m^2

e) 1.5 mm **f)** 0.5 dm

3. A: 6 units squared B: 18 units squared
C: 20 units squared

5.2 Area of a Triangle

1. a) 24 m^2 **b)** 14 cm^2

2. a) 36 cm^2 **b)** 8 mm **c)** 20 m **d)** 87.3 cm^2

3. 360 cm^2

4. a) 6 cm^2 **b)** 12 cm^2 **c)** 6 cm^2 **d)** 24 cm^2

5.3 Calculating the Area of a Triangle

1. a) 3 units squared **b)** 3 units squared

c) 6 units squared

2. Your triangles could have $h = 4$, $b = 12$; $h = 6$, $b = 8$; $h = 2$, $b = 24$; $h = 8$, $b = 6$; $h = 12$, $b = 4$; or $h = 24$, $b = 2$.

3. a) 20 m^2

b) The height of the second triangle is 8 m, while the height of the first triangle is 10 m. The bases are the same. So the second triangle should have a smaller area than the first triangle.

c) 16 m^2

d) To find the area, you will multiply the base by the height and divide by 2. So the calculation will be the same whether $b = 4$ and $h = 10$ or $b = 10$ and $h = 4$. The two triangles will have the same area.

4. a) 8000 cm^2 or 0.8 m^2

b) 2000 cm^2 or 0.2 m^2

c) Although the base and height of the triangles are fixed, your triangles can be various shapes such as symmetrical, slanted to the left, or slanted to the right.

5.4 Area of a Trapezoid

1. a) 20 units squared **b)** 36 units squared

2. 280 cm^2

3. 6 m

4. Your trapezoid could have sides of 2, 4, and $h = 3$, or sides of 4, 5 and $h = 2$, among other solutions.

5.5 Exploring the Area and Perimeter of a Trapezoid

1.

	Side length (cm)	Side length (cm)	Base *a* (cm)	Base *b* (cm)	Height *h* (cm)
Trapezoid A	3.5	3.5	3	2	3.4
Trapezoid B	2.5	2.5	4	3	2.4
Trapezoid C	1	1	5.5	4.5	0.8

2. a) 12 cm

b) Trapezoid A will probably have the greatest area. It looks the largest and is the closest in shape to a square, having the sides similar in length to the bases.

3. a) The three areas are 8.5 cm^2, 8.4 cm^2, and 4.0 cm^2.

b) Trapezoid A has the greatest area.

5.6 Calculating the Area of a Complex Shape

1.

Area of rectangle	Area of triangle	Area of parallelogram	Area of trapezoid
28 m^2	10 m^2	15 m^2	15 m^2

Total area = 68 m^2

2. a) 39 cm^2 **b)** 52 cm^2

3. a) 42 m^2 **b)** 6 m

4. a) 47 m^2 **b)** $376

5. a) 198 cm^2 **b)** 31.5 m^2 **c)** 8.25 m^2

d) 318 cm^2

5.7 Communicating about Measurement

1. 120 cm, 684 cm^2

2. a) 52 cm^2; subtract the area of the parallelogram from the area of the square

b) 273.75 cm^2

3. 0.4 m^2

Test Yourself

1. a) 15 cm^2 **b)** 24.5 cm^2 **c)** 13.86 cm^2

d) 21.3 m^2

2. first triangle: 36 m^2, second triangle: 12 m^2

3. a) 2 m^2 **b)** 3.24 m^2 **c)** 32 m^2

d) 102.24 cm^2 **e)** 625 cm^2

4. 108 cm^2

5. a) 22 cm^2; find the area of the triangle

b) 42 m^2; use the height of the rectangle as the height of the triangle
c) 85 cm^2; either subtract the area of the central triangle from the area of the trapezoid, or find the area of the two other triangles separately and add them together

6. a) 43 cm^2 **b)** 31.25 m^2

Chapter 6

6.1 Comparing Positive and Negative Numbers

1. −8, −7, −5, −4, −2, −1, 0, +1, +3, +5, +7, +8

2. a) −4, −3, 0, +3, +4
b) −6, −4, −2, +5, +9
c) −98, −6, +1, +22, +35
d) −67, −38, 0, +8, +45
e) −123, −8, +3, +46, +98

3. a) +1 **b)** −2 **c)** −6 **d)** 0
e) −1 **f)** +4 **g)** −1, 0, +1
h) 0

4. a) > **b)** < **c)** > **d)** <
e) > **f)** > **g)** < **h)** >

6.2 An Integer Experiment

1. Ellie is on floor 23.
2. POSITIVELY

6.3 Adding Integers Using the Zero Principle

1. a) +7 **b)** −6 **c)** +8 **d)** −11
2. a) +1 **b)** +2
3. a) −2 **b)** +3 **c)** −2 **d)** +5
4. $3
5. The shaded spaces will show the signs + / −.

6.4 Adding Integers That Are Far from Zero

1. a) (−3) + (−3) = (−6)
b) (−3) + (+2) = (−1)
c) (+2) + (−2) = 0
d) (+3) + (−3) = (0)
e) (+3) + (−1) = (+2)
f) (−5) + (+6) = (+ 1)

2. a) −8 **b)** +7 **c)** +1 **d)** −1
e) +7 **f)** −7

3. a) −15 **b)** −75 **c)** +75 **d)** +15
e) −125 **f)** −75 **g)** +125 **h)** +75
i) −34 **j)** −50 **k)** −20 **l)** −75

6.5 Integer Addition Strategies

1. a) +54 **b)** +92 **c)** −77 **d)** −56
e) +62 **f)** +387 **g)** −8

2. a) −6 **b)** −5 **c)** −25 **d)** +43
e) −6 **f)** −36

3. a) −70 **b)** −70 **c)** −88 **d)** −50
e) −82 **f)** +55

4. a) −10 **b)** +100 **c)** +34 **d)** −50

6.6 Using Counters to Subtract Integers

1. a) −4 **b)** −37 **c)** +6

2. a) +4 **b)** +7 **c)** +8 **d)** +50
e) −6 **f)** +2

3. a) −8 **b)** −1 **c)** −1 **d)** +6

4. ADD THE OPPOSITE.

6.7 Using Number Lines to Subtract Integers

b) (−11) − (+7) = (−18)
c) (−14) − (−26) = (+12)

2. a) −36 **b)** −28 **c)** +28 **d)** +36
e) +12 **f)** −7

6.8 Solve Problems by Working Backwards

1. a) −9 **b)** −12

2. The elevator started on floor 14.
3. Meagan started with $24.75
4. Miguel started at the 4 m level and Yoshi started at the 6 m level.
5. Shailini must leave the house at 11:15 A.M.

Test Yourself

1. a) −4 **b)** +2 **c)** +3 **d)** +7
e) +2 **f)** +13

2. The order of integers on the number lines will be:
a) −5, −3, −1, 0, +5
b) −20, −15, −5, +10, +20
c) −13, −7, −5, +4, +9

3. −17, −5, −4, 0, +1, +2, +8, +17

4. a) < **b)** > **c)** > **d)** >
e) = **f)** = **g)** > **h)** <
i) < **j)** =

5. a) −7, −10, −13 **b)** +5, +9, +13
c) +6, −7, +8 **d)** 0, +3, +1

6. a) +8 **b)** −15 **c)** +4 **d)** 0
e) −15 **f)** +40 **g)** −40 **h)** +15
i) +98 **j)** +15

7. a) −24 **b)** −3 **c)** −10 **d)** +10
e) −31 **f)** +140 **g)** +6 **h)** +65
i) −102 **j)** +51

8. a) + **b)** − **c)** − **d)** +

9. a) +8 **b)** −7 **c)** −7 **d)** 11
e) 3 **f)** 51

10. (+8) − (−14) = (+22)
11. (−10) + (+14) = (+4)
12. (−3) − (+19) = (−22)

13. a) −2 **b)** −11