

ANSWERS



For answers containing diagrams or graphs, refer to the Student e-book.

CHAPTER 1

Review of Prerequisite Skills, pp. 4–5

1. a) -26 b) 35 c) 1 d) 3
2. a) 4 b) 3 c) 44 d) 0 e) 30 f) 7
3. a) 5 b) -2 c) 20 d) 1 e) ± 5
f) 5 g) -5 h) 9
7. a) A specific cell is referred to with a letter for the column and a number for the row. For example, cell A1.
b) In Microsoft® Excel, specify the first and last cells in the range, with a colon between them. For example, A1:A10. In Corel® Quattro® Pro, specify the first and last cells in the range, with two periods between them. For example, A1..A10.
c) Move the cursor to the cell containing the data. Select the Copy command from the Edit menu. Move the cursor to the cell into which you want to copy the data. Select the Paste command from the Edit menu.
d) Move the cursor to the cell containing the data. Point the mouse at the border of the cell, so that the mouse cursor appears as an arrow. Left click the mouse and hold. Drag the data to the new cell, and release the mouse.
e) Move the mouse to where the column letters are displayed near the top of the screen. Point the mouse directly at the border between the column you want to expand and the column to the immediate right. Left click the mouse and hold. Drag to the right until the column is the desired width, and release.
f) Move the cursor to any cell in the column to the immediate right of where you wish to add the new column. Select Columns from the Insert menu.
g) In Microsoft® Excel, the symbol = must precede a mathematical expression. In Corel® Quattro® Pro, the symbol + must precede a mathematical expression.
8. $\triangle ABC \sim \triangle HJG$ (SSS)
9. a) Subtract 3 to get subsequent terms; 56, 53, 50.
b) Divide by 2 to get subsequent terms; 12.5, 6.25, 3.125.
c) Divide by -2 to get subsequent terms; $\frac{1}{16}$, $-\frac{1}{32}$, $\frac{1}{64}$.
d) The number of factors of a increases by 1 and the number of factors of b doubles, to get subsequent terms: $aaaaa$, $bbbbbbbbbbbbbb$, $aaaaaaaa$.
10. a) 4:1
11. a) $x^2 - 2x + 1$ b) $2x^2 - 7x - 4$ c) $-5x^2 + 10xy$
d) $3x^3 - 6x^2y + 3xy^2$ e) $9x^3 - 9x^2y$ f) $ac - ad + bc - bd$
12. a) 0.25 b) 0.46 c) 0.6 d) 11.5 e) 0.857 142
f) 0.73

13. a) 46% b) 80% c) $3.\overline{3}\%$ d) 225% e) 137.5%

Section 1.1, pp. 10–13

Practise

1. a) iterative b) iterative c) non-iterative
d) iterative e) non-iterative f) iterative
3. The order of winners may vary.

Apply, Solve, Communicate

4. Answers will vary.
5. The tracing shows irregularities according to the pulse rate. Sketches may vary.
6. a) Select an item to begin the process. Compare the ranking of this item with the ranking of a second item. The item with the higher ranking is now ranked first. Now, compare the next item's ranking with the first ranked item. The higher ranking of these two is now ranked first. Continue in this fashion with subsequent items to find the item with the highest rank. Once this item is found, work with the remaining items to find the item with the second highest ranking by selecting one of the remaining items to begin the process as outlined above. Continue in this fashion until there are no remaining items.
b) Compare the first two data, then the second and third, and then the third and fourth, and so on, interchanging the order of the data in any pair where the second item is ranked higher. Repeat this process until no data are interchanged.
7. $1 - \left(\frac{8}{9}\right)^n$
8. a) 48 b) 192 c) $3 \times 4^{n-1}$
9. 10, 88, 7714, 59 505 532
10. a) i) Begin with a segment 1 unit long. Branch off at 90° with two segments each one half the length of the previous branch. Repeat the process.
ii) Begin with a segment 1 unit long. Branch off with 3 segments, each of which are one third as long and separated by 60° . Repeat the process.
iii) Begin with a vertical segment 1 unit long. Branch off the top to the left at 120° with a 1-unit segment. Continue upwards on the first branch with a 1-unit segment. Branch off the top right at 120° with a 1-unit segment. Iteration: Go up one, branch left and repeat everything that is one step below. Go up one and branch left. Go up one, branch right and repeat what is on the left, two steps below. Repeat.
- b) i) 5 units ii) 3 units iii) 64 units
c) no d) Answers may vary.
11. a) Answers may vary. b) Answers may vary.
c) Answers may vary.