0 (a). Evaluate 2 + 0 + 1 + 5.

0 (b). Let t be TNYWR. The average of the five numbers 12, 15, 9, 14, 10 is m. The average of the four numbers 24, t, 8, 12 is n. What is the value of n - m?

0 (c). Let t be TNYWR. The lines with equations y = 13 and y = 3x + t intersect at the point (a, b). What is the value of a? 1 (a). If  $2^{k+4} = 1024$ , what is the value of k?

1 (b). Let t be TNYWR. If 2t + 2x - t - 3x + 4x + 2t = 30, what is the value of x?

1 (c). Let t be TNYWR. In the diagram,  $\angle BAE = \angle CBE = \angle DCE = 90^{\circ}$ . If  $AE = \sqrt{5}$ ,  $AB = \sqrt{4}$ ,  $BC = \sqrt{3}$ , and  $CD = \sqrt{t}$ , what is the length of DE?



2 (a).  $\triangle ABC$  has vertices A(-1,2), B(5,2) and C(-4,-3). What is the area of  $\triangle ABC$ ?

## 2 (b). Let t be TNYWR.

In last night's 75 minute choir rehearsal, Canada's Totally Musical Choir spent 6 minutes warming up, 30 minutes learning notes, t minutes learning words, and the rest of the rehearsal singing their pieces. If the choir spent N% of the rehearsal singing their pieces, what is the value of N?

## 2 (c). Let t be TNYWR.

In the diagram, the number that goes in each unshaded box above the bottom row is the sum of the numbers in the two unshaded boxes immediately below to the left and to the right. For example, 23 = 9 + 14. What is the value of x - y?



3 (a). What is the surface area of a rectangular prism with edge lengths of 2, 3 and 4?



3 (b). Let t be TNYWR.

In the diagram, line segments AB and CD are parallel. AB intersects EF at V and GF at W. CD intersects EF at Y and GF at Z. If  $\angle AVE = 72^{\circ}$ ,  $\angle EFG = t^{\circ}$ , and  $\angle GZD = x^{\circ}$ , what is the value of x?



## 3 (c). Let t be TNYWR.

Determine the number of integers b > 0 for which 30t is divisible by b!.

(If n is a positive integer, the symbol n! (read "n factorial") represents the product of the integers from 1 to n. For example, 4! = (1)(2)(3)(4) or 4! = 24.)