

**NEW DISCOVERING MATHEMATICS
SECONDARY 2 (GRADE 8)
NON-CALCULATOR PRACTICE**

Name: _____ () Class: _____ Date: _____

Chapter 2 – Linear Equations in Two Variables (Worksheet B)

1 Solve each pair of simultaneous equations by using the elimination method.

(a) $x + y = 5$ and $x + 4y = 14$

(b) $5x + y = -17$ and $-2x + y = 4$

2 Solve each pair of simultaneous equations by using the substitution method.

(a) $y = x + 5$ and $5x + y = 17$

(b) $x - 4y = 16$ and $3x - y = 26$

3 Solve each pair of simultaneous equations by using the graphical method.

(a) $y = -\frac{x}{2} + \frac{5}{2}$ and $y = x + 4$

(b) $y = -2x + 4$ and $y = -\frac{x}{3} + 4$

4 Solve each pair of simultaneous equations.

(a) $5y + 6x = 0$ and $2x - 3y = 56$

(b) $3x - 7y = 8$ and $5x + 4y = 29$

(c) $3y - 5x = 19$ and $2x - 7y = -25$

5 The difference between two numbers is 33.

The sum of twice the greater number and five times the smaller number is 31.

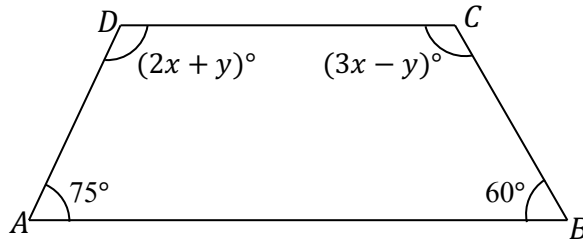
Find the two numbers.

6 Hillary paid for a \$55 item using 10 dollar notes and 5 dollar notes.

She used 8 notes in total.

How many of each note did Hillary use?

- 7 In the diagram, $ABCD$ is a trapezium with AB parallel to DC . Angle $ABC = 60^\circ$, angle $BAD = 75^\circ$, angle $ADC = (2x + y)^\circ$ and angle $DCB = (3x - y)^\circ$.



Find the value of x and of y .

- 8 When 4 is added to both the numerator and denominator of a fraction, the value of the fraction becomes $\frac{5}{9}$.
When 6 is subtracted from the numerator and 3 is subtracted from the denominator, the value of the fraction becomes $\frac{1}{4}$.
Find the original fraction.
- 9 The sum of the 'tens' and 'ones' digits of a two-digit number is 10.
When the digits are reversed, the number increases by 18.
Find the number.
- 10 A rod AD is cut into 3 parts, AB , BC and CD .
 $AC : CD = 2 : 1$, $AB : BD = 2 : 3$ and $BC = 8$ cm.
Find the length of the rod AD .