

# Mathematics Selection Test

(Diagnostic)

(There are 9 pages in this test)

**Time Allowed: 60 minutes**

**Pass Mark 60% [ or 18 / 30 ]**

**Student Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**CPR Number:** \_\_\_\_\_

**Date of Assessment:** \_\_\_\_\_

**Grade / Result**

**Question 1**

If 5 is subtracted from 2.8 then the result is

Answer: -2.2

**Question 2**

$-5[4-(-3)(2)] =$

Answer: -50

**Question 3**

$8\frac{1}{4} - 5\frac{2}{3} =$

Answer:  $2\frac{7}{12}$

**Question 4**

A student's test mark was 34 out of 40. What percent is this mark.

Answer: 85%

**Question 5**

There are 868 students at Bahrain Polytechnic this semester. The number of students is to increase by 10% next semester. The total number of students at Bahrain Polytechnic is expected to be:

Answer: 955

**Question 6**

I topped up my cell-phone with 5 BD. I must use this credit within 40 days. After 28 days my balance is 2.820 BD. How much can I spend on average per day for the remaining time.

Answer: 235 fils per day

**Question 7**

What is the **diameter** (القطر) of the 100 fils coin to the nearest mm (لأقرب مليمتر). The ruler shows 11 cm to 14 cm.



Answer: 24 mm

**Question 8**

For the seven numbers 2, 7, 21, 21, 37, 39, 45 **the average or mean** (المتوسط الحسابي) is :

Answer: 24.57

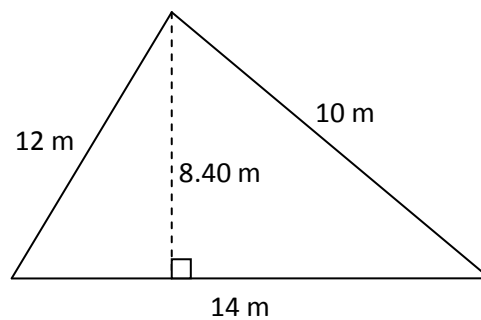
**Question 9**

The **median value** (قيمة الوسيط) for the numbers, 18, 7, 29, 7, 19, 26, 7, 40 is:

Answer: 18.5

**Question 10**

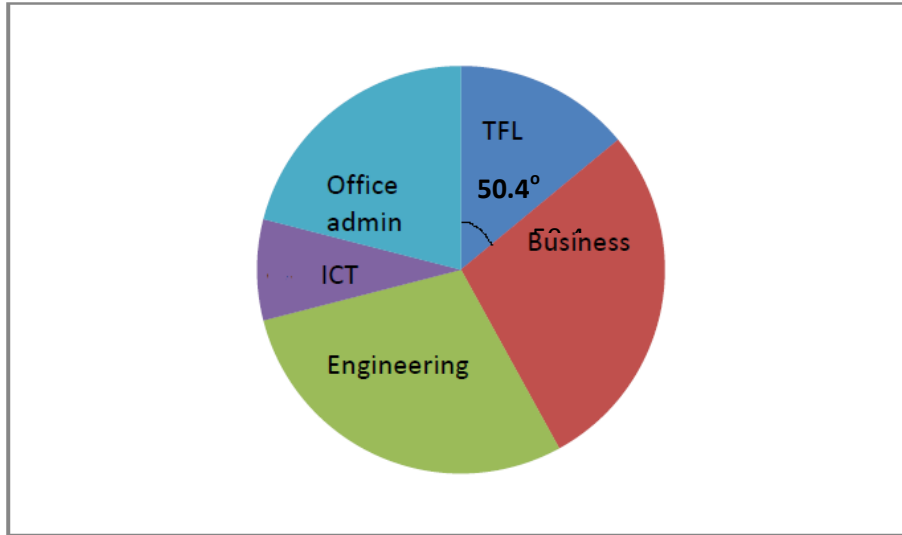
Find the **area of the triangle**: (أوجد مساحة المثلث)



Answer: 58.8 m<sup>2</sup>

**Question 11**

The pie chart below shows students doing different courses. What is the percentage of students doing TFL [Transport Freight and Logistics]?



Answer: 14%

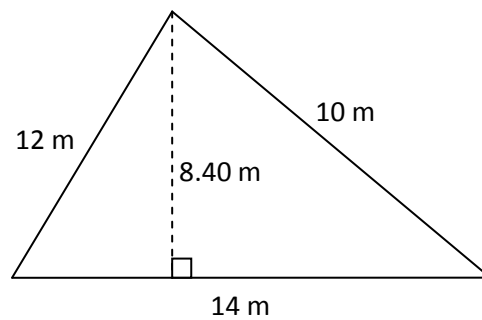
**Question 12**

The numbers 12, 16, n, 23, 30 have a **mean** (المتوسط) of 22.6 The value of n is:

Answer: 32

**Question 13**

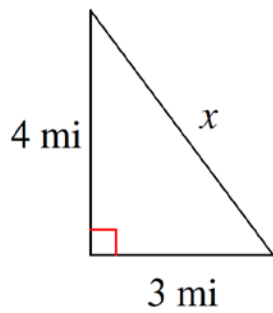
Find the **perimeter of the triangle**: (محيط المثلث)



Answer: 36 m

**Question 14**

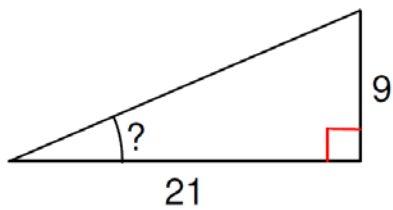
Find the value of  $x$



Answer: 5 mi

**Question 15**

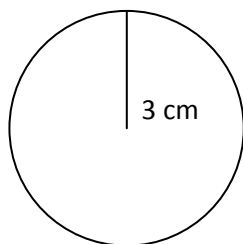
Find the measure of the indicated angle to the nearest degree.



Answer:  $23^\circ$

**Question 16**

The radius (نصف القطر) of a circle is 3 cm. Find the circumference (المحيط) of the circle.



Answer:  $6\pi$  cm

**Question 17**

If  $2x + 23 = 7$  then  $x =$

Answer: -8

**Question 18**

Make  $p$  the **subject** :  $d = 540 + 0.5p$

أعد صياغة المعادلة بحيث تكون بدلالة  $P$

Answer:  $p = 2d - 1080$

**Question 19**

If  $4(2x - 3) = 2 - (6 - x)$ , then  $x =$

Answer: 1.143

**Question 20**

If  $x = 3$  then calculate  $\frac{(2x-3)(2-x)}{x-2}$

Answer: -3

**Question 21**

$(2x-3)(x+2) =$

Answer:  $2x^2 + x - 6$

**Question 22**

If  $-8x + 3(-2x - 2) = -12 - 8x$  then  $x =$

Answer: 1

**Question 23**

$\frac{12k^2h - 3kh^2}{3kh}$  can be simplified (يمكن تبسيطه) to

Answer:  $4k - h$

**Question 24**

The factors (عوامل) of  $x^2 - 6x + 8$  are

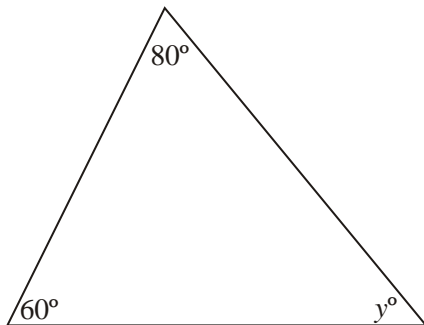
Answer:  $(x - 4)$  and  $(x - 2)$

**Question 25**

Solve the equation  $x^2 + 2x = 15$   $x =$

Answer:  $x = -5$  or  $x = 3$

**Question 26**



Find the value of  $y$ .

Answer:  $40^\circ$

**Question 27**

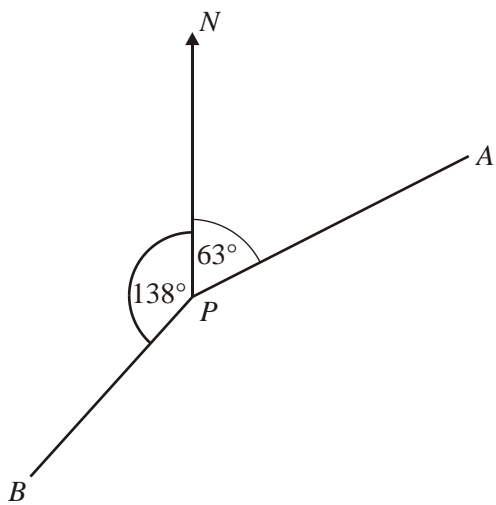


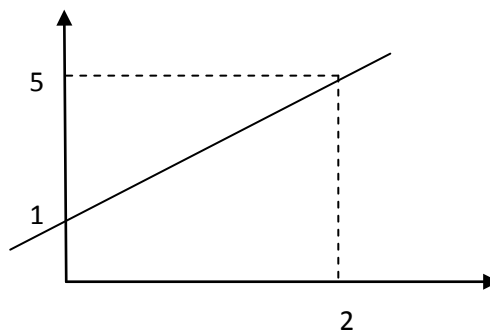
Diagram **NOT** accurately drawn

Find angle (الزاوية) p

Answer:  $159^\circ$

**Question 28**

The equation of the line (معادلة الخط المستقيم) shown on the graph is



Answer:  $y = 2x + 1$

**Question 29**

The result of  $\frac{1}{3} \times 25.67$  rounded to 2 decimal places is:

Answer: 8.56



**Question 30**

The result of  $1.5 \times 3.51$  rounded to 2 significant figures is:

Answer: 5.3

**END OF TEST**