

GRADE 12 MATHEMATICS
NOVEMBER EXAMINATION PAPER 2

QUESTION 1

The following frequency table provides the number of goals scored by the Proteas netball team during 50 matches in 2018.

Number of goals	Frequency	Cumulative Frequency
$5 < x \leq 10$	6	b
$10 < x \leq 15$	a	14
$15 < x \leq 20$	13	27
$20 < x \leq 25$	9	c
$25 < x \leq 30$	7	43
$30 < x \leq 35$	d	48
$35 < x \leq 40$	e	50

- 1.1 Determine the values a to e. (5)
 1.2 Calculate the average goals scored in 2018. (2)

(7)

QUESTION 2

The table below shows the data for the heart rate per minute of ten males. Their heart rate is checked before they cycle for 10 min (x) and after they have exercised (y).

	1	2	3	4	5	6	7	8	9	10
Heart rate before	85	90	125	80	85	112	93	118	95	100
Heart rate after	95	100	158	125	125	145	90	175	150	120

- 2.1 Represent the data as a scatter diagram on the grid provided. (3)
 2.2 Calculate the mean heart rate before AND after exercise. (2)
 2.3 Determine the formula for the least regression line to 4 decimal places. (2)
 2.4 Calculate the correlation coefficient to 4 decimal places AND comment on the strength of it. (2)

- 2.5 Draw the least squares regression line on your scatter diagram. (2)

(7)
 [18]

QUESTION 3

The table below shows the distances (in kilometers) travelled daily by a sales representative for 21 working days in a certain month.

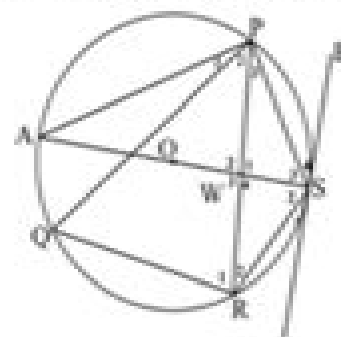
131	132	140	140	141	144	146
147	149	150	151	159	167	169
169	172	174	175	178	187	189

- 3.1 Calculate the mean distance travelled by the sales representative. (2)
 3.2 Write down the five-number summary for this data. (4)
 3.3 Draw the box-and-whisker diagram for this set of data. (2)
 3.4 Calculate the standard deviation of the distance travelled. (2)

[10]

QUESTION 4

- 4.1 The diagram shows P, A, Q, R and S lies on the circumference of the circle with centre O. SB is a tangent at S and RSWP. ACWS and RWP are straightlines.



Proof that:

- 4.1.1 $SB \parallel RP$ (4)
 4.1.2 $2\angle P = \angle WPS + \angle AS$ (5)
 4.1.3 $\angle AS = \frac{m\angle P}{m\angle P} + \angle WPS$ (4)

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A Loxley



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