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NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2018

MATHEMATICAL LITERACY: PAPER II

MARKING GUIDELINES

Time: 3 hours

150 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

QUESTION 1

$$1.1 \quad 1.1.1 \quad \frac{450\,000\,000}{3\,400\,000\,000} = 0,1323$$

$$1 \text{ ZAR} = 0,13 \text{ USD}$$

$$1.1.2 \quad (3 \times 60) + (1 \times 30) + (1 \times 55) = \text{R}265$$

$$1.1.3 \quad 265 \times 0,08 = \$21,20$$

$$1.1.4 \quad 2006: 1 \text{ ZAR} = 0,13 \text{ USD}$$

$$2018: 1 \text{ ZAR} = 0,08 \text{ USD}$$

$$\frac{0,13 - 0,08}{0,13} \times 100 = 38,46\%$$

$$1.2 \quad \frac{1}{4} \times 85\,000 = 21\,250$$

$$21\,250 \times 90 = \text{R}1\,912\,500$$

OR

$$\frac{3}{4} \times 85\,000 = 63\,750$$

$$85\,000 - 63\,750 = 21\,250 \times \text{R}90 = \text{R}1\,912\,500$$

$$1.3 \quad 1.3.1 \quad \begin{array}{ll} \text{(a)} & 0,7 \\ \text{(b)} & 0,4 \\ \text{(c)} & 0,2 \\ \text{(d)} & 0,8 \\ \text{(e)} & \text{rain} \\ \text{(f)} & \text{no rain} \end{array} \quad \text{OR} \quad \begin{array}{ll} \text{(c)} & 0,8 \\ \text{(d)} & 0,2 \\ \text{(e)} & \text{no rain} \\ \text{(f)} & \text{rain} \end{array}$$

$$1.3.2 \quad 0,7 \times 0,8 \times 100 = 56\%$$

$$1.4 \quad 320 \div 40 = 8$$

$$280 \div 25 = 11,2 \approx 11$$

$$11 \times 8 = 88 \text{ fields}$$

OR

$$320 \div 25 = 12,8 \approx 12$$

$$280 \div 40 = 7$$

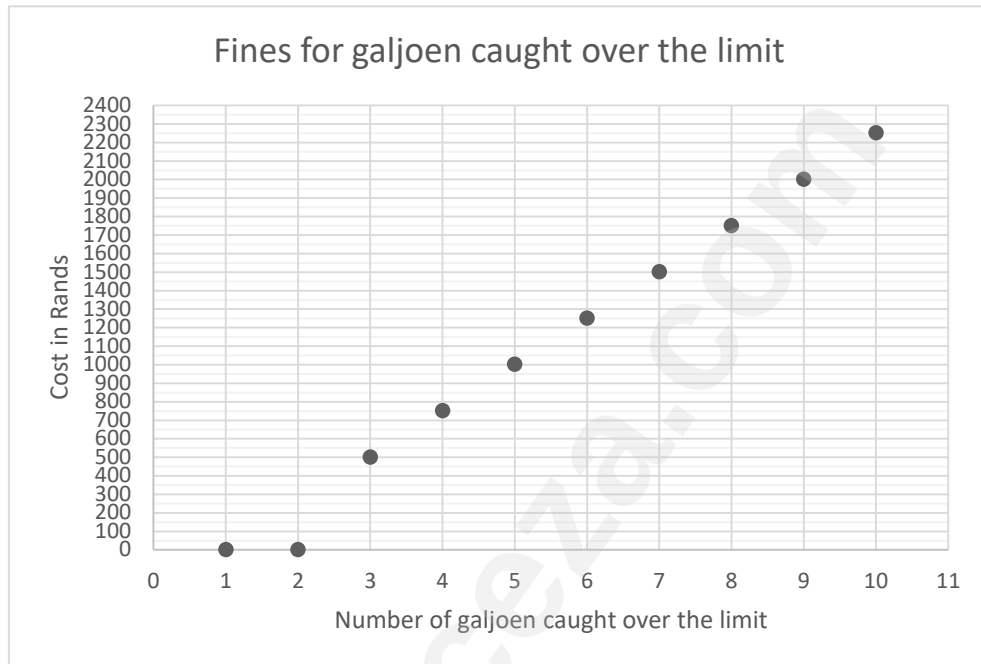
$$12 \times 7 = 84 \text{ fields}$$

QUESTION 2

2.1 Anchovies, because there is no bag limit.

2.2 2.2.1 $C = 500 + (n - 1) 250$

2.2.2



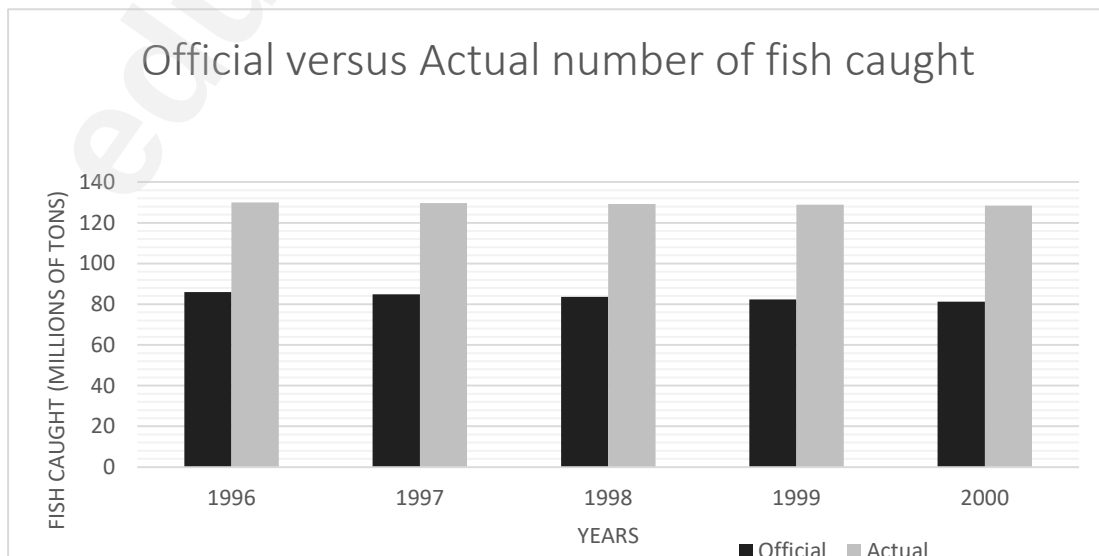
2.2.3 1 500

2.2.4 $7 \times 240 = R1\ 680$

He will have R180 left over.

2.3 2.3.1

QUANTITY OF FISH CAUGHT ANNUALLY		
	OFFICIAL	ACTUAL
1996	86 000 000	130 000 000
1997	84 800 000	129 620 000
1998	83 600 000	129 240 000
1999	82 400 000	128 860 000
2000	81 200 000	128 480 000



- 2.3.2 (a) Range = $95 - 87 = 8$ million tons
 (b) Median = 90 million tons
 (c) Mode = 90 million tons
 (d) Mean = $\frac{999}{11} = 90,8 \approx 91$ million tons
 OR 90 800 000 OR 91 000 000

- 2.4.1 $1,5 \text{ cm} = 100 \text{ km}$ (accept $1,4 - 1,6 \text{ cm}$)
 $1,5 \text{ cm} = 10\,000\,000 \text{ cm}$
 $1 : 6\,666\,666$ (accept $7\,142\,857 - 6\,250\,000$)

- 2.4.2 $4,2 \text{ cm}$ (accept $4 - 4,3 \text{ cm}$)
 $4,2 \times 6\,666\,666 = 27\,999\,997 \text{ cm}$
 (accept $250 - 287$)

- 2.4.3 (a) $279,99 - 170 = 109,99 \text{ km}$
 (b) Table more accurate – Map small scale or table includes actual distance on roads. OR inaccurate measurement using bar scale.

(c) $\frac{170 \text{ km}}{12 \text{ km}/\ell} = 14,16 \ell$

$$50 \times \frac{1}{4} = 12,5 \ell$$

No he will not make it.

OR

$$50 \times \frac{1}{4} = 12,5 \ell$$

$$12,5 \times 12 \text{ km}/\ell = 150 \text{ km}$$

No he will not make it.

(d) $t = \frac{d}{s} = \frac{170}{80} = 2,125 \text{ hours}$
 $= 2:07$

OR

2:08

OR

2hrs:7,5 min

QUESTION 3

3.1 Area triangle = $\frac{1}{2} (2,5)(3) = 3,75 \text{ m}^2$
 Area rectangle = $5,5 \times 3 = 16,5 \text{ m}^2$
 Area circle = $(3,14)(0,15)^2 = 0,07068 \text{ m}^2$
 Total Area = $3,75 + 16,5 - 0,07068 = 20,18 \text{ m}^2$

3.2 $d = \frac{0,99}{3,14} = 0,315 \text{ m}$
 $= 315 \text{ mm}$
 Hole will be too small.

OR

Circumference of hole = $2 \times 3,14 \times (0,3 \div 2) = 0,94 \text{ m}$
 Circumference of tree = $0,99 \text{ m}$
 $\therefore$ Hole is too small

3.3 $\frac{7 \times 3}{0,15 \times 1,2} = 116,67 = 117 \text{ strips}$

OR

$\frac{7}{0,15} \times \frac{3}{1,2} = 117 \text{ strips}$

OR

$\frac{7}{1,2} \times \frac{3}{0,15} = 117 \text{ strips}$

3.4 $\frac{117}{8} = 14,6 \approx 15 \text{ packs}$
 $15 \times 159,95 = \text{R}2\,398,50 \approx \text{R}2\,400$

3.5 Perimeter = $3,9 + 5,5 + 3 + 5,5 + 2,5 = 20,4 \text{ m}$ Yes that will be enough.

3.6 $\frac{1\,000}{230} = 4,34$
 so 4 bricks in the top and the bottom of the length = 8 bricks

$\frac{1\,000}{110} = 9$ so 9 bricks in the middle of the length
 $(9 + 4 + 4) \times 2 = 34 \text{ bricks}$

QUESTION 4

$$4.1 \quad \frac{1}{10} \text{ oz} \times 0,0625 = \frac{1}{160} \text{ lbs or } 0,00625$$

$$\frac{1}{160} \div 0,0022 = 2,84 \text{ g}$$

4.2 1 : 10 weight
3 800 : 31 600 cost
1 : 8,315
Therefore not the same.

OR

1/10 oz = R3 800 so 1 oz = R38 000

1 oz = R31 600 so No

$$4.3 \quad 4.3.1 \quad \frac{375}{5\,000} \times 100 = 7,5\%$$

$$4.3.2 \quad (a) \quad \begin{array}{ll} \text{(i)} & 5\,575 \times 0,115 = \text{R}641,12/13 \\ \text{(ii)} & 5\,575 + 641,12 = \text{R}6\,216,12/13 \\ \text{(iii)} & \text{R}6\,216,12/13 \\ \text{(iv)} & 6\,216,12 \times 0,115 = \text{R}714,85 \\ \text{(v)} & 6\,216,12 + 714,85 = \text{R}6930,97/98 \end{array}$$

$$(b) \quad 7\,900 - 6\,930,97/98 = \text{R}969,03/02 \text{ Short}$$

$$4.4 \quad \frac{31\,600}{1,15} = \text{R}27\,478,261 \approx \text{R}27\,478,26$$

Total: 150 marks