



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

UMKHANYAKUDE DISTRICT

GRADE 8 MATHEMATICS TEST



MARKS: 50

INSTRUCTIONS:

- 1. Answer ALL questions, Show ALL calculations.**
- 2. Remember to give reasons where applicable.**
- 3. Make use of the calculators.**
- 4. Do not write with a pencil.**
- 5. Number the answers correctly according to the numbering used in this question paper.**
- 6. This question paper consists of 3 questions.**



QUESTION 1: MULTIPLE CHOICE QUESTIONS, CHOOSE THE CORRECT ANSWER, i.e 1.8 = F

1.1 Solve for x if $3x - 7 = 5$

A. $x = 10$

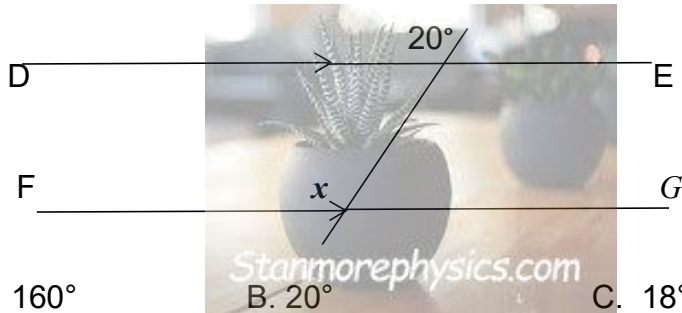
B. $x = 4$

C. $x = 2$

D. $x = 3$

(2)

1.2 If $DE \parallel FG$, then the value of x is:



A. 160°

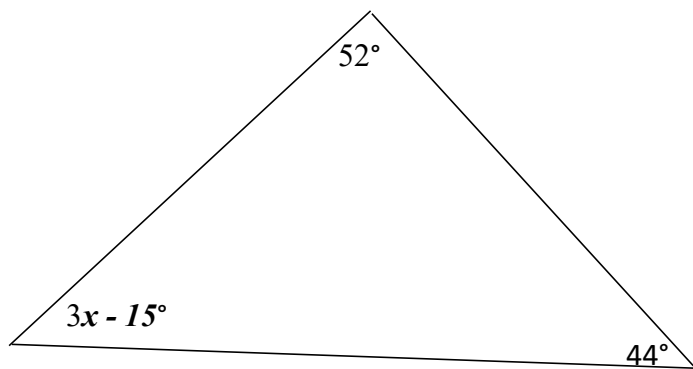
B. 20°

C. 18°

D. 60°

(2)

1.3 Find the value of x :



A. $x = 30^\circ$

B. $x = 36^\circ$

C. $x = 37^\circ$

D. $x = 33^\circ$

(2)

1.4 $2^y = 128$, then the value of y is:

A. $y = 12$

B. $y = 64$

C. $y = 14$

D. $y = 7$

(2)

1.5 If $a = -1$, $b = -3$ and $c = 4$, the value of these expressions $3b^2 - \sqrt{c}$

A. $= 4$

B. $= -12$

C. $=$

D. $= 25$

(2)

[10]

QUESTION 2

2.1 Simplify the following expressions:

2.1.1 $2a(3a + b) - 3a(2a + 4b)$ (3)

If $a = -2$, $b = -4$ and $c = 6$, find the value of these expressions:

2.1.2 $\frac{abc}{b}$ (2)

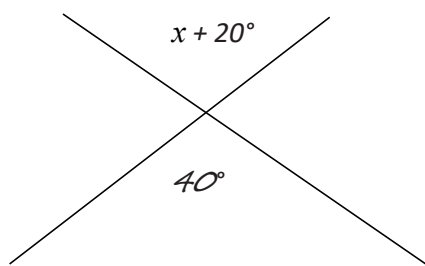
2.1.3 Solve for x : $3^x = 81$ (2)

2.1.4 $2^x - 1 = 15$ (3)

[10]

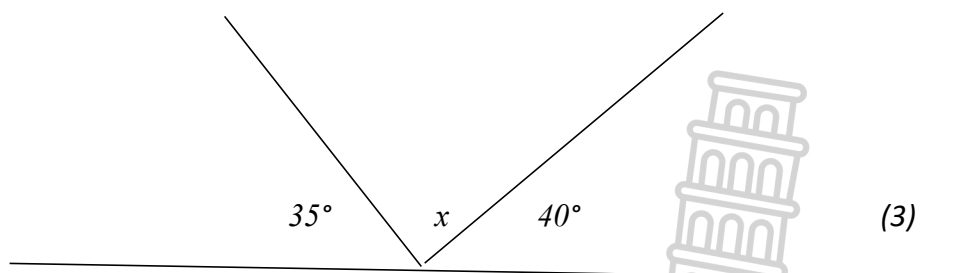
QUESTION 3: Find the value of the unknown variables, by giving reasons for your answers:

3.1



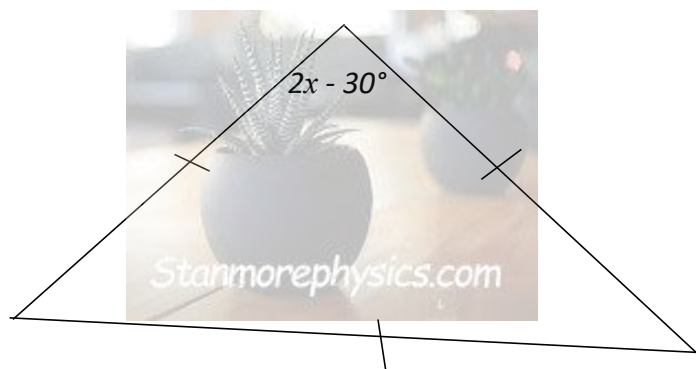
(3)

3.2

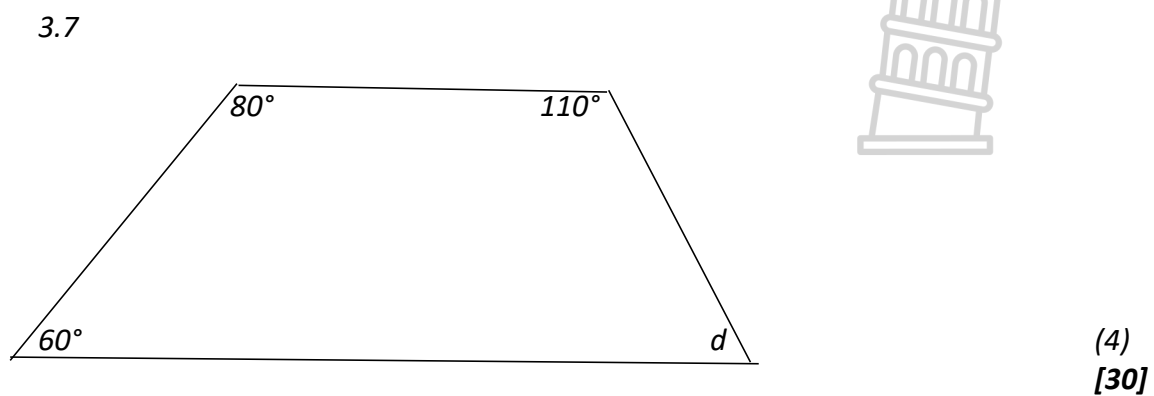
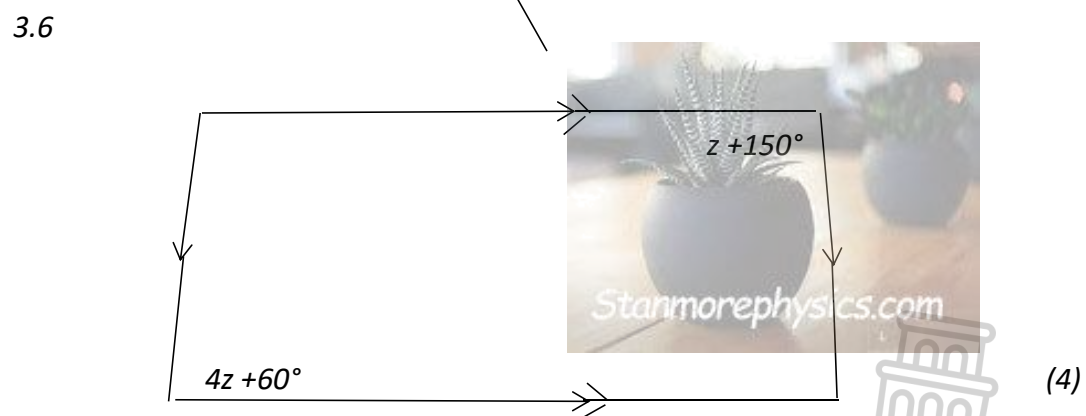
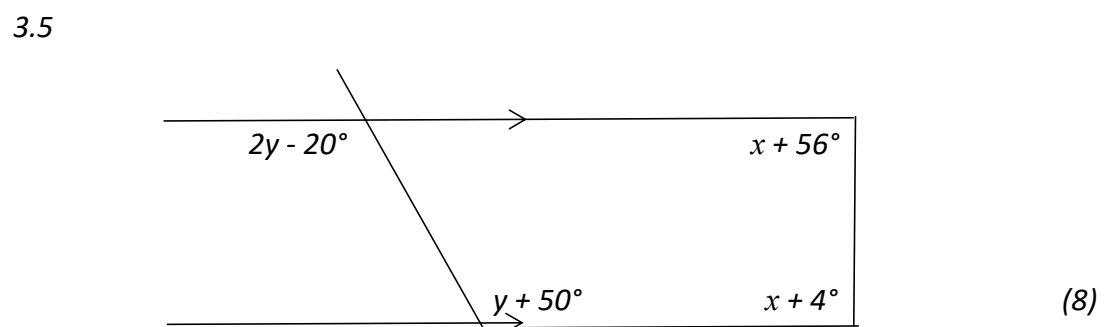
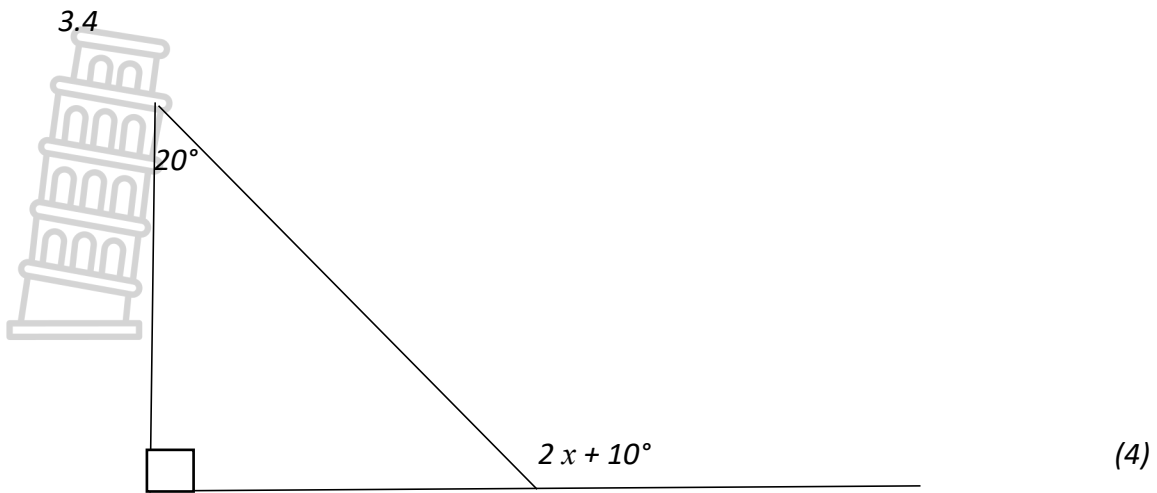


(3)

3.3



(4)



TOTAL MARKS = 50

[30]



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SEPTEMBER 2022

MARKING GUIDELINES

Stanmorephysics.com
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This consists of 3 pages including the cover page



QUESTION 1

1.1 = B vV

1.2 = B vV

1.3 = D vV

1.4 = D vV

1.5 = D vV

[10]

QUESTION 2

2.1.1 $6a^2 + 2ab - 6a^2 - 12ab$ $= -10ab$	✓ $6a^2$ ✓ $-12ab$ ✓ answer
2.1.2 $\frac{(-2)(-4)(6)}{-4}$ $= \frac{48}{-4}$ $= -12$	✓ Substitution ✓ answer
2.1.3 $3^x = 3^4$ $X = 4$	✓ 3^4 ✓ Answer
2.1.4 $2^x = 16$ $2^x = 2^4$ $X = 4$	✓ 16 ✓ 2^4 ✓ answer

[10]

QUESTION 3

3.1 $X + 20^\circ = 40^\circ$vert opp angles $X = 20^\circ$	✓ S ✓ R ✓ answer
3.2 $x + 35^\circ + 40^\circ = 180^\circ$sum of angles on a str. Line $X = 105^\circ$	✓ S ✓ R ✓ answer
3.3 $2x - 30^\circ + 2x - 30^\circ + 2x - 30^\circ = 180^\circ$sum of angles on a triangle $6x - 90^\circ = 180^\circ$ $6x = 270^\circ$ $X = 45^\circ$	✓ S ✓ R ✓ $6x$ ✓ answer
3.4 $2x + 10^\circ = 90^\circ + 20^\circ$...ext. angle = sum of 2 opp int. Angle $2x = 100^\circ$ $X = 50^\circ$	✓ S ✓ R ✓ 100° ✓ answer
3.5 $x + 56^\circ + x + 4^\circ = 180^\circ$co-int. Angles $2x = 120^\circ$ $X = 60^\circ$ $2y - 20^\circ = y + 50^\circ$alt. Angles $2y - y = 50^\circ + 20^\circ$ $Y = 70^\circ$	✓ S ✓ R ✓ 120° ✓ Answer ✓ S ✓ R ✓ Grouping like terms ✓ answer
3.6 $4z + 60^\circ = z + 150^\circ$opp angles of a PARM are = $4z - z = 150^\circ - 60^\circ$ $3z = 90^\circ$ $Z = 30^\circ$	✓ S ✓ R ✓ 90° ✓ answer

3.7 $d + 80^\circ + 110^\circ + 60^\circ = 360^\circ$...sum of angles on a quad. $D = 360^\circ - 250^\circ$ $D = 110^\circ$	✓ S ✓ R ✓ 250° ✓ answer

[30]

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