KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

UMKHANYAKUDE DISTRICT

GRADE 8 MATHEMATICS TEST

MARKS: 50

INSTRUCTIONS:

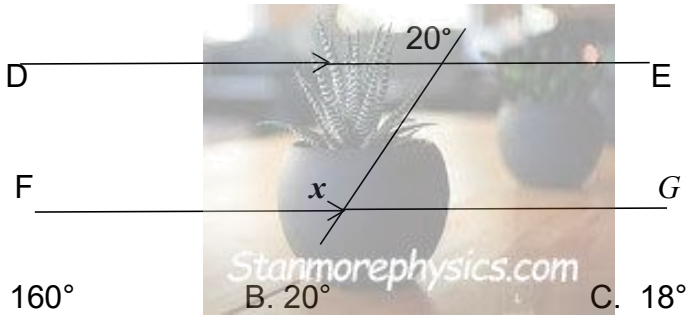
1. Answer ALL questions, Show ALL calculations.
2. Remember to give reasons where applicable.
3. Make use of the calculators.
4. Do not write with a pencil.
5. Number the answers correctly according to the numbering. used in this question paper.
6. This question paper consists of 3 questions.

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

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

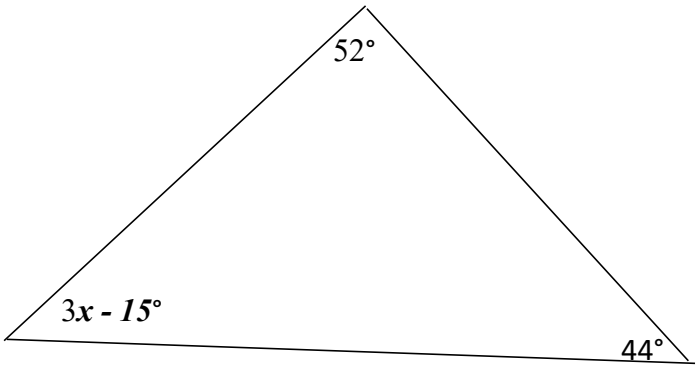
A. $x = 10$ B. $x = 4$ C. $x = 2$ D. $x = 3$ (2)

1.2 If DE // 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° B. x =36° C. x =37° D. x =33° (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)*

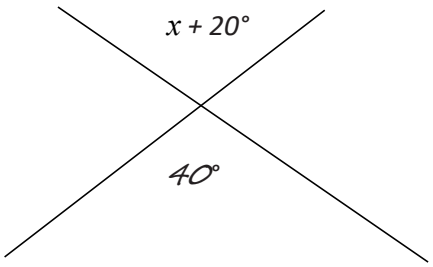
2.1.3 Solve for x: $3^x = 81$ (2)

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

[10]

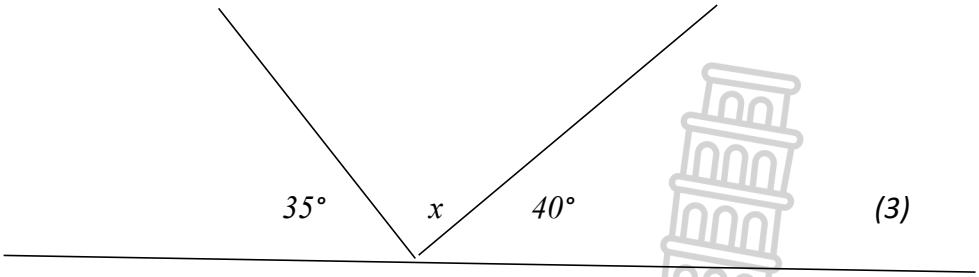
QUESTION 3: Find the value of the unknown variables, by giving reasons for your answers:

3.1



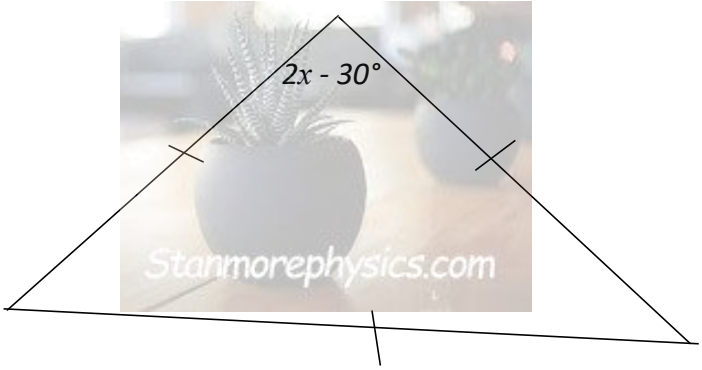
(3)

3.2



(3)

3.3



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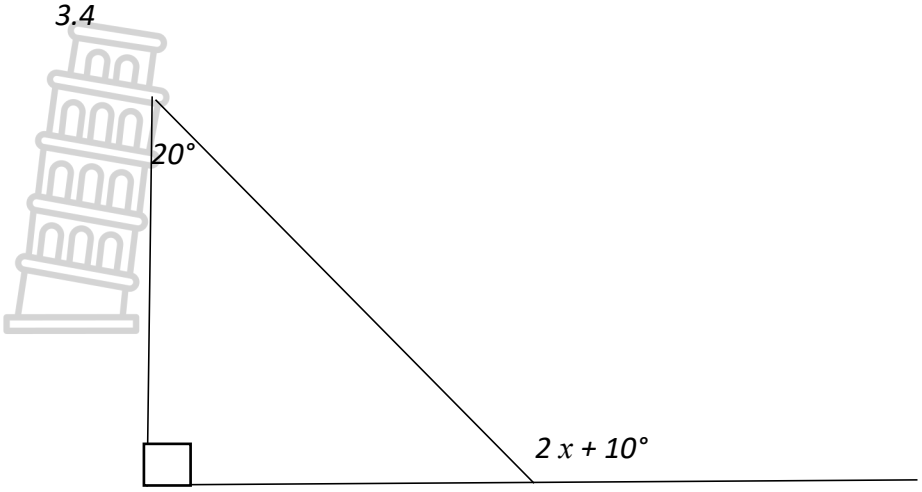
3.4



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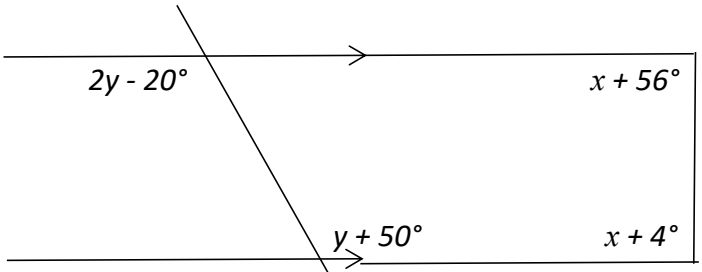
3.5



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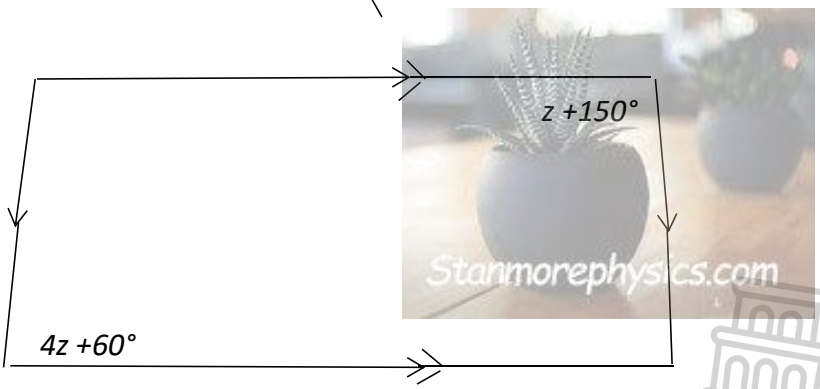
3.6



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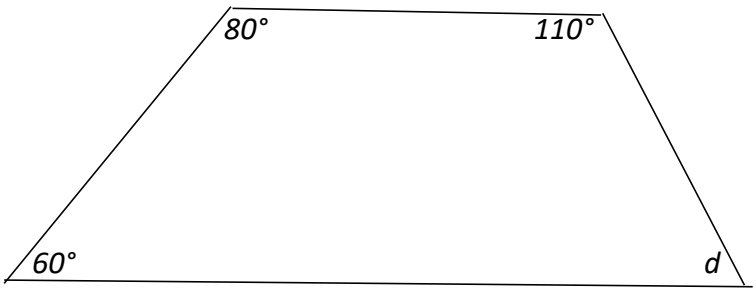
3.7



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[30]

TOTAL MARKS = 50

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SEPTEMBER 2022

MARKING GUIDELINES

MARKS: 50

This consists of 3 pages including the cover page

QUESTION 1

1.1 = B √√
1.2 = B √√
1.3 = D √√
1.4 = D √√
1.5 = D √√ [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° = 40° …….vert opp angles X = 20°	✓ S ✓ R ✓ answer
3.2 x + 35° + 40° = 180° ……sum of angles on a str. Line X = 105°	✓ S ✓ R ✓ answer
3.3 2x - 30° + 2x - 30° + 2x - 30° = 180° …..sum of angles on a triangle 6x - 90° = 180° 6x = 270° X = 45°	✓ S ✓ R ✓ 6x ✓ answer
3. 4 2x + 10° = 90° + 20° …ext. angle = sum of 2 opp int. Angle 2x = 100° X = 50°	✓ S ✓ R ✓ 100° ✓ answer
3.5 x + 56° + x + 4° = 180° …..co-int. Angles 2x = 120° X = 60°	✓ S ✓ R ✓ 120° ✓ Answer
2y - 20° = y + 50° ……alt. Angles 2y - y = 50° + 20° Y = 70°	✓ S ✓ R ✓ Grouping like terms ✓ answer
3.6 4z + 60° = z + 150° ……opp angles of a PARM are = 4z - z = 150° - 60° 3z = 90° Z = 30°	✓ S ✓ R ✓ 90° ✓ answer

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

[30]

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