TOPIC : ALGEBRA

1. **Simplify: 3p + p – 2p.**
(PLE 2019 number 3)

2. **Solve: 3 + m = 2(finite 5)**
(PLE 2019 number 10)

3. **Find the solution set for**
K + 2 < 6 **(PLE 2019 number 18)**

4. **In a market, the cost of a pawpaw is sh 800 more than the cost of a mango. A mango costs two thirds of the cost of a pineapple.**
The total cost of the three fruits is sh 4,300.Calculate the cost of the pineapple.
(PLE 2019 number 31)

5.Solve the inequality:

$3 - 2m < 15$ (PLE 2018 number 19).

6.Simplify: $3m - (2 + m)$

(PLE 1999 number 4).

7.Simplify: $(3x + 5) - (x + 1)$

(PLE 2000 number 26).

8.Solve the inequality:

$3p - 3q + 2p + 2q$ (PLE 2005 number 5).

9.Simplify: $6a - 2a$

(PLE 2002 number 13).

10.Simplify: $(8m + 9) - (3m + 4)$

(PLE 2001 number 11).

11. Simplify: m + 2m + 3m
(PLE 2006 number 3).

12. Simplify: $6x - 5m + 3m - 4x$
(PLE 2007 number 3).

13. Simplify: $t^6 \div t^2$
(PLE 2007 number 4).

14 Simplify: 4k – 3k + k
(PLE 2008 number 3).

15. Simplify: 6y + 4y – 5y
(PLE 2009 number 5).

16. Simplify: $2x + 3x$
(PLE 2010 number 2).

17. Simplify: (a) $n^2 \times n$
(PLE 2010 number 42).

(b) $m^6 \times m^3$

(c) $\dfrac{a^2 \times a^5}{a^3}$

18. Simplify: $6a - 4a + a$
(PLE 2011 number 3).

19. Simplify: $\dfrac{b^3 \times b^5}{b^2 \times b^4}$
(PLE 2011 number 41b).

20. Simplify: $5ab - 2xy - ab + 7xy$
(PLE 2014 number 2).

21.Simplify: $18x - 5(3x + 7)$
(PLE 2015 number 3).

22.Simplify: $3a + a - 2a$
(PLE 2016 number 2).

23.Simplify: $5k - 2(3 - k)$
(PLE 2018 number 6).

25. Simplify: $\frac{1}{y} \div y^{-3}$

26.Simplify: $2a^2 + 3a^2$

27.Simplify: $3m \times 2m^2 \times m$
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28.If p = r, r = ⁻4 and q = 3, Work out: $\frac{pq}{r}$ (PLE 1998 number 12).

29. If a = 55 and b =45, find the value of (a+b)(a-b).
(PLE 2000 number 9).

30.Given that a = 2, b =4 and c = ⁻3, work out: b(a+c)
(PLE 2002 number 17).

31. Given that a = 1 and b =3 find the value of 3a – 3b
(PLE 2002 number 17)

32. If a = 2, b = 3 and c = 5, find the value of 3a + b + c
(PLE 2003 number 8)

33.What is the value of $\frac{bc - d}{c^2}$ when b=8, c=3 and d=6,
(PLE 2003 number 34b).

34. Find the value of $\frac{5a-(m-a)}{a}$ When a = 3, c = 3 and d = 6 ?
(PLE 2004 number 24).

35. If a = $^-$3, b = 6 and c = $^-$2, Find the value of $\frac{b(a+c)}{c}$
(PLE 2005 number 27)

36. Given that a = $^-$6, b =3, c = $^-$2 and d = 1.
Work out: $\frac{ad}{bc}$ (PLE 2006 number 23)

37.Given that x=3, y=4 and z=6 Find the value of, $\frac{xy}{z}$
(PLE 2007 number 13).

38. Given that m = 2 and y = ⁻3 Workout. $\frac{2(ym)+2}{(m-y)-6}$
(PLE 2008 number 32a).

39. Find the value of ar + a x, given that a =2, r = 5 and x =3
(PLE 2009 number 33b)

40. Given that a = ⁻3 and b=4, find the value of 2a + 2b
(PLE 2010 number 15)

41. Given that p=⁻4, q=3 and c=⁻2
Find the value of $\frac{pq}{c}$
(PLE 2011 number 19).

42. Given that k = 2 and p = ⁻3
Find the value of 3k + 2p
(PLE 2012 number 15).

43. Given that given that a = $\frac{1}{3}$ and b = $\frac{1}{9}$ .Find the value of $\frac{a}{b}$
(PLE 2013 number 16)

44. Given that n = 3, y =4, and r = ⁻2.evaluate.$\frac{2n+r}{r}$
(PLE 2014 number 11)

45. Given that a = $^{-}$2, b=3 and c = 4
Find the value of $b(a^2 + c)$
(PLE 2015 number 13).

46. Given that m = 3k and k= 5
Find the value of 2k + 6m
(PLE 2016 number 31).

47. Given that a=3 and b=$^{-}$2. Find the value of $a^2 - b^3$
(PLE 2017 number 17)

48. Solve: 2p – 8 = 16
(PLE 1999 number 6)

49. In Kabiriti market, the cost of a cow is 7 times the cost of a goat. Opit bought a cow and a goat at sh 232,000. Find the cost of each of the animals
(PLE 1998 number 39).

50. If $\frac{1}{6}x = 1\frac{1}{6}$
(PLE 1999 number 12).

51. Kirya is 3 times as old as his daughter. The difference between their ages is 36 years. How old is the daughter?
(PLE 1999 number 32a)

52. Solve: $2(3a-5) - 3(1-a) = 14$
(PLE 1999 number 32b)

53.Namusoke's mother bought 8 books at sh $(x-150)$ each and 2 Mathematical sets at sh $(x + 100)$ each. She spent sh. 5,300 altogether. Find the amount of money spent on books
(PLE 2000 number 40).

54. Solve: $3x - 3 = 15 + x$
(PLE 2000 number 21).

55.Solve: $a + 7 = 13$
(PLE 2001 number 2)

56. Solve for x in: $2x - 5 = x - 1$
(PLE 2001 number 27)

57.Solve for b in: $\frac{3}{5}(2b - 3) = 3$
(PLE 2001 number 34).

58.Annet is 20 years younger than Peter. In 5 years, Peter will be twice as old as Annet. How old is Annet now?
(PLE 2001 number 36).

59. Solve: 5y – 4 = 16
(PLE 2002 number 15).

60.Solve: x - 1 = 2x + 5
(PLE 2002 number 40)

62. Solve for x in: m - 3 = 3
(PLE 2003 number 2)

63.Solve: 2x + 7 = 11
(PLE 2001 number 34).

64.Abdu is x years old. He is 5 years younger than Madina. How old is Madina? (PLE 2006 number 22).

65. Solve for x in $\frac{2x+2}{3} = \frac{x+3}{2}$
(PLE 2003 number 34a).

66.Solve the equation:
$\frac{1}{2}(p+1) = 3$ (PLE 2004 number 23)

67.Solve for p: 3 – (p -1) = 2(p+5)
(PLE 2004 number 38b)

68. Solve: $2t + 5 = t + 1$
(PLE 2005 number 29).

69. Solve: $x + \frac{1}{4}x = 5$
(PLE 2005 number 39b).

70. Solve: $2x + 7 = 11$
(PLE 2006 number 12)

71. Three pupils are aged

$(2x + 5)$, $(3x - 10)$ and $(x + 3)$ years. Their total age is 34 years.
(PLE 2006 number 38)

a) Find the value of x?

b) How old is the youngest boy?

72.Solve: $\frac{m+2}{2} = \frac{4m-4}{11}$ (PLE 2006 number 41).

73. Solve: $\frac{2x+4}{5} - 6 = 0$

(PLE 2006 number 41b).

74.Solve: $3 - x = 2x$

(PLE 2007 number 5)

75.Given that $\frac{2}{3}$ of Peter's salary is equal to $\frac{3}{4}$ of Mary's salary, find Peter's salary if Mary's salary is sh. 120,000

(PLE 2006 number 38)

b) Express Mary's salary as a fraction of Peter's salary.

76.Solve: $\frac{1}{2}(m + 7) = 2m + 2$
(PLE 2007 number 39a).

77. Solve: $\frac{10}{5n} + 4 = 21$
(PLE 2007 number 39b).

78.Solve the equation:
5t – 2(t-1) = 1 (PLE 2008 number 16)

79.Babra is 4 times as old as Mukasa. In 10 years' time, Barbara will be twice as old as Mukasa, How old are Barbara and Mukasa? (PLE 2008 number 32b)

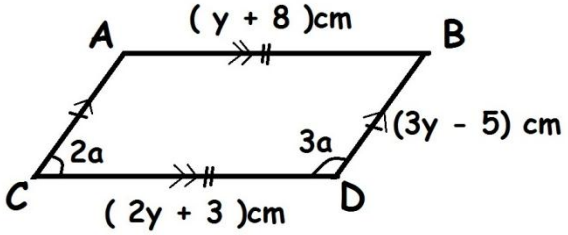
80. The difference between $\frac{1}{5}$ and $\frac{1}{6}$ of a number is 7. Find the number? (PLE 2008 number 21).

81. Solve: $3x - (x + 3) = 3$
(PLE 2009 number 28).

82. Solve for x:

$2(x + 1) - 3(2x - 1) = -3$
(PLE 2009 number 33a)

83. Use the figure below to answer questions that follow.
(PLE 2009 number 34)



a) Find the value of a.

b) Find the size of angle BAC in degrees.

84.Solve the equation;

$2x - 2 = \frac{1}{4}x + 5$ (PLE 2009 number 42b).

85. Solve: 4p - 4 = 20

(PLE 2010 number 18).

86.Solve: $2(3x - 1) - 4(x - 1) = 4$

(PLE 2010 number 34b)

87. Solve: 2m + 3 = 18 - m.

(PLE 2010 number 34a)

88. Solve: $2(3x - 6) = 6$

(PLE 2011 number 20).

89. Solve; $6x - 9(x - 2) = 3$
(PLE 2011 number 20).

90. Solve: $\frac{2}{5}m = 4$ (PLE 2012 number 4).

91. Solve: $14p + 4 = 11$
(PLE 2012 number 25)

92. Solve: $2^{3n} \div 2^{n} = 2^{4}$.
(PLE 2014 number 17)

93.Nanziri has two children, a son and a daughter. If the son is a half her age, the daughter is a third her age and the total age of the two children is 30 years. (PLE 2014 number 31).

a) Find Nanziri's age.

b). How old is the daughter ?

94.A geometry set costs half as much as a book. A book costs sh. 600 more than a fountain pen. If the total cost of the three items is sh. 6,900. Find the cost of the geometry set. (PLE 2015 number 31)

95. Hakim is three times as old as Lucky. Their total age is 52 years. How old is Lucky. (PLE 2016 number 20).

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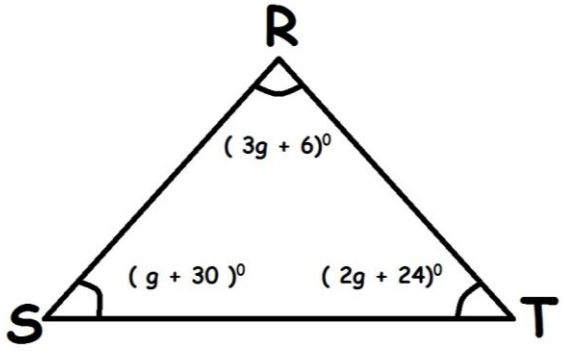
96) Solve the equation:

$7n + 2 = 23$ (PLE 2017 number 5)

97. Study the figure below and use it to answer questions that follow. (PLE 2016 number 25)



(a) Find the value of g.

(b) Calculate the size of angle RST.

98. Solve the equation:

$\frac{1}{2}n + 6 = 2 + n$ (PLE 2017 number 5).

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99) Solve the inequality:

$3(2x - x) < 15$ (PLE 2002 number 40b)

100. Kizito is 38 years old and his sister is 24 years old.
(a) How many years ago was Kizito three times as old as his sister?

101) How old Kizito's sister then.

102. List all the integers which are members of the solution set

x such that $8 \leq x \leq 12$

(PLE 1999 number 27).

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103) Solve and find the solution set: $16 > 4x > 4$ **(PLE 2001 number 34b)**

104) Solve the inequality:

$\frac{3}{4}x - 8 > 1$ **(PLE 2001 number 34b)**

105. Solve the inequality:

$\frac{3}{4}x - 8 > 1$ **(PLE 2004 number 38a).**

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106) Solve the inequality:

$1 + \frac{1}{2}x > 2$ **(PLE 2007 number 29)**

107. Solve the inequality:

$^{-}2p + 4 > 6$ (PLE 2008 number 19).

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108. Solve the inequality:

$3(x + 4) < 5x - 2$

(PLE 2009 number 42a).

109. Solve the inequality:

$3x + 4 > x + 8$ (PLE 2012 number 25b).

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110) Solve: $3 + 4m > 12 + 3m$

(PLE 2011 number 38b)

111. Solve the inequality:

$9 < -3(y-1)$ (PLE 2013 number 25a).

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112. State the first two values of the solution set for the above inequality No *111* (PLE 2013 number 25a).

113. Write the solution set for

the inequality: $6 < x < 10$

(PLE 2016 number 31b)

114. Solve the inequality:

$9 - 2k > k + 3$ (PLE 2017 number).

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115. Solve the inequality:

$3 - 2m < 15$ (PLE 2018 number 19)