



BASELINE ASSESSMENT

GRADE 9

MEMORANDUM

This test is mainly to identify the learner's problem areas. The final mark is only a rough estimation, as the weight of all the questions are 1 mark irrespective of number of steps.

Total:

99

Calculate:

1) $2 + 4 = 6$

7001

FOR MARK

2) $3 + 5 = 8$

FOR MARK

3) $16 + 8 = 24$

FOR MARK

4) $27 + 18 = 45$

FOR MARK

7002

5) $9 - 4 = 5$

FOR MARK

6) $12 - 5 = 7$

FOR MARK

7) $23 - 11 = 12$

FOR MARK

8) $57 - 39 = 18$

FOR MARK

7003/4

9) $-1 + 6 = 5$

FOR MARK

10) $5 - 9 = -4$

FOR MARK

Calculate:

11) $-5 \times 10 \times -3$
 $= 150$

7005

FOR MARK

12) $28 \div -7 = -4$

FOR MARK

13) $4 \times 3 + 6 \times 5$

7006

$= 12 + 30$

$= 42$

FOR MARK

14) $8 + 2 \times 9$

$= 8 + 18$

$= 26$

FOR MARK

15) $-30 \div 10 \times 5 + 7$

7007

$= -3 \times 5 + 7$

$= -15 + 7$

$= -8$

FOR MARK

16) $3 \times 2 \times (72 \div 9) - 13$

$= 2 \times 3 \times 8 - 13$

$= 6 \times 8 - 13$

$= 48 - 13$

$= 35$

FOR MARK

17) $\frac{2}{6}$ of $36 - 10$

7008

$= \left(\frac{2}{6} \times \frac{36}{1}\right) - 10$

$= (2 \times 6) - 10$

$= 2$

FOR MARK

18) $4 \times 10 \div 5 \times (13 - 11)$

7009

$= 4 \times 10 \div 5 \times 2$

$= 40 \div 5 \times 2$

$= 8 \times 2$

$= 16$

FOR MARK

7010

19) $5000 \text{ ml} = 5 \text{ l}$

FOR MARK

20) $6 \text{ m} = 600 \text{ cm}$

FOR MARK

7011

21) $6.52 \text{ kg} = 6520 \text{ g}$

FOR MARK

22) $59 \text{ m} = 0,059 \text{ km}$

FOR MARK

Round off to the nearest 10:

7012

23) $84 \approx 80$

FOR MARK

24) $167 \approx 170$

FOR MARK

Round off to the nearest 100:

25) $2154 \approx 2200$

FOR MARK

26) $375 \approx 400$

FOR MARK

Round off to the nearest 1000:

27) $6448 \approx 6000$

FOR MARK

28) $7835 \approx 8000$

FOR MARK

Round off to the nearest integer:

7013

29) $1,49 \approx 1$

FOR MARK

30) $14,621 \approx 15$

FOR MARK

Round off to 1 decimal place:

31) $12,53 \approx 12,5$

FOR MARK

32) $67,397 \approx 67,4$

Round off to 2 decimal places:

33) $56,235 \approx 56,24$

FOR MARK

34) $8,3662 \approx 8,37$

Determine the prime factors:

35) $81 = 3 \times 3 \times 3 \times 3$

7014

FOR MARK

36) $216 = 2 \times 2 \times 2 \times 3 \times 3 \times 3$

FOR MARK

Determine the factors:

37) 40 :
 $1; 2; 4; 5; 8; 10; 20; 40$

7015

FOR MARK

38) 36 :
 $1; 2; 3; 4; 6; 9; 12; 18; 36$

FOR MARK

Determine the lowest common multiple:

39) 14 and 6:
 $LCM = 2 \times 3 \times 7 = 42$

7016

FOR MARK

40) 4 and 5 and 8:
 $LCM = 2 \times 2 \times 2 \times 5$
 $= 40$

FOR MARK

Determine the highest common factor:

41) 24 and 40: 7017
 $24 =$
 $1; 2; 3; 4; 6; 8; 12; 24$

$40 =$
 $1; 2; 4; 5; 8; 10; 20; 40$
 $HCF = 8$

FOR MARK

42) 12 and 30 and 36:

$12 = 1; 2; 3; 4; 6; 12$
 $30 =$
 $1; 2; 3; 5; 6; 10; 15; 30$
 $36 =$
 $1; 2; 3; 4; 6; 9; 12; 18; 36$
 $HCF = 6$

FOR MARK

Find the equivalent fractions:

7019

43) $\frac{5}{7} = \frac{15}{21}$

FOR MARK

44) $\frac{2}{9} = \frac{8}{36}$

FOR MARK

Simplify:

45) $\frac{35}{77} = \frac{5}{11}$

FOR MARK

46) $\frac{24}{80} = \frac{3}{10}$

FOR MARK

Fill in <, > or =

47) $\frac{3}{5} < \frac{20}{25}$

FOR MARK

48) $\frac{7}{9} > \frac{3}{5}$

FOR MARK

Write as mixed fraction:

7020

49) $\frac{11}{2} = 5\frac{1}{2}$

FOR MARK

50) $\frac{38}{5} = 7\frac{3}{5}$

FOR MARK

Write as improper fraction:

$$51) 8\frac{2}{3} = \frac{26}{3}$$

FOR
MARK

$$52) 3\frac{9}{11} = \frac{42}{11}$$

FOR
MARK

Calculate:

7021

$$53) \frac{5}{7} + \frac{4}{7} = \frac{9}{7}$$

FOR
MARK

$$54) \frac{1}{6} + \frac{4}{9}$$
$$= \frac{3}{18} + \frac{8}{18}$$

$$= \frac{11}{18}$$

FOR
MARK

$$55) 1\frac{1}{3} + 2\frac{3}{4}$$

7022

$$= \frac{4}{3} + \frac{11}{4}$$

$$= \frac{16 + 33}{12}$$

$$= \frac{49}{12} = 4\frac{1}{12}$$

FOR
MARK

$$56) \frac{2}{3} \times \frac{5}{8}$$

7023

$$= \frac{5}{12}$$

FOR
MARK

$$57) \frac{7}{9} \text{ of } 45$$

$$= 35$$

FOR
MARK

$$58) \frac{5}{9} \div \frac{1}{4}$$

$$= \frac{20}{9}$$

$$= 2\frac{2}{9}$$

FOR
MARK

$$59) 3\frac{3}{4} \div 2\frac{1}{16} \times 8\frac{1}{4}$$

7024

$$= \frac{9}{4} \times \frac{35}{6} \div \frac{35}{24}$$

$$= \frac{9}{4} \times \frac{35}{6} \times \frac{24}{35}$$

$$= 9$$

FOR
MARK

Simplify:

8003

$$60) 2^3 - \sqrt{4} - \sqrt{9}$$

$$= 8 - 2 - 3$$

$$= 3$$

FOR
MARK

$$61) \sqrt{36 + 64}$$

$$= \sqrt{100}$$

$$= 10$$

FOR
MARK

Simplify:

8004

$$62) 3a^5 \times 7a^3$$

$$= 21a^8$$

FOR
MARK

$$63) 5a^3bc^3 \times (-2ab^2c^2)$$

$$= -10a^4b^3c^5$$

FOR
MARK

Simplify:

8005

$$64) \frac{x^7}{x^3} = x^4$$

FOR
MARK

$$65) \frac{12d^8e^5}{4d^6e^2} = 3d^2e^3$$

FOR
MARK

Simplify:

8006

$$66) (x^2y^3)^2 = x^4y^6$$

FOR
MARK

$$67) (-5b^3c)^2 = 25b^6c^2$$

FOR
MARK

$$68) \left(\frac{3w^2xz}{2y}\right)^3 = \frac{27w^6x^3z^3}{8y^3}$$

FOR
MARK

Write in expanded form:

8008

69) $5,38 \times 10^5$

$= 538000$

FOR MARK

Write in scientific notation:

70) 74 200 000

$= 7,42 \times 10^7$

FOR MARK

71) $3x - \frac{x^2}{3} - 7x^3 + 10$

8081

a) How many terms are in the expression?

4

FOR MARK

8082

b) What is the variable?

x

FOR MARK

c) What is the constant term?

10

FOR MARK

8083

d) What is the coefficient of x^3 ?

-7

FOR MARK

e) What is the degree of the expression?

3

FOR MARK

f) Rearrange the expression in descending powers of x.

8083

$-7x^3 - \frac{x^2}{3} + 3x + 10$

FOR MARK

Simplify:

72) $5x + 2x$

$= 7x$

8084

FOR MARK

73) $x^2 + 4xy + 2x + 3x^2 + 2xy$

$= 4x^2 + 6xy + 2x$

FOR MARK

Simplify:

74) $6 \times a \times a \times a \times b \times b$

$= 6a^3b^2$

8085

FOR MARK

75) $(6g^2h)(2gh^3)$

$= 12g^3h^4$

FOR MARK

Simplify:

76) $3y \times 5 + 2y \times 4$

$= 15y + 8y$

$= 23y$

8086

FOR MARK

77) $x \times 3 + x \times 5 - x \times 9$

$= 3x + 5x - 9x$

$= -x$

FOR MARK

Multiply out:

78) $3b(4a + 2b)$

$= 12ab + 6b^2$

8087

FOR MARK

79) $-6x(8x - 3x^2)$

$= -48x^2 + 18x^3$

FOR MARK

80) $3k(3 - k) + k(k + 2)$

$= 9k - 3k^2 + k^2 + 2k$

$= -2k^2 + 11k$

8088

FOR MARK

81) Subtract $3a^2 + 9a - 6$ from $4a^2 + 5a - 7$

8089

$= 4a^2 + 5a - 7 - (3a^2 + 9a - 6)$

$= 4a^2 + 5a - 7 - 3a^2 - 9a + 6$

$= a^2 - 4a - 1$

FOR MARK

If $x = -3, y = 3, z = 4$ determine:

82) $12z - 20$

8090

$= 12(4) - 20$

$= 48 - 20 = 28$

FOR MARK

83) $\frac{5y - 3}{3x + 5}$

$= \frac{5(3) - 3}{3(-3) + 5}$

$= \frac{12}{-4}$

$= -3$

FOR MARK

Simplify:

$$84) \frac{-6g^2h^5}{-3g^3h^4}$$
$$= \frac{2h}{g}$$

8091 FOR MARK

$$85) \frac{4a - 4b}{4}$$
$$= \frac{4a}{4} - \frac{4b}{4}$$
$$= a - b$$

8092 FOR MARK

$$86) \frac{20x + 10x}{5x}$$
$$= \frac{20x}{5x} + \frac{10x}{5x}$$
$$= 4 + 2$$
$$= 6$$

FOR MARK

$$87) (3x^2)^3 \times (x^4)^2$$
$$= 27x^6 \times x^8$$
$$= 27x^{14}$$

8093 FOR MARK

$$88) \sqrt{36x^8y^{14}}$$
$$= 6x^4y^7$$

8094 FOR MARK

$$89) \sqrt[3]{27g^{12}k^6}$$
$$= 3g^4k^2$$

FOR MARK

Solve the following equations:

$$90) x + 4 = -7$$
$$x = -7 - 4$$
$$x = -11$$

8026 FOR MARK

$$91) x + 5 - 12 = 0$$
$$x - 7 = 0$$
$$x = 7$$

FOR MARK

$$92) 4x = -36$$
$$x = -9$$

8027 FOR MARK

$$93) \frac{x}{-6} = 12$$
$$x = -72$$

8028 FOR MARK

$$94) \frac{3x}{5} = 6$$
$$3x = 30$$
$$x = 10$$

8029 FOR MARK

$$95) \frac{5x}{3} - 12 = 8$$
$$\frac{5x}{3} = 20$$
$$5x = 60$$
$$x = 12$$

FOR MARK

$$96) 3x + 7 = 5x - 9$$
$$3x - 5x = -9 - 7$$
$$-2x = -16$$
$$x = 8$$

8030 FOR MARK

$$97) 3x - 15 = -5x + 17$$
$$3x + 5x = 17 + 15$$
$$8x = 32$$
$$x = 4$$

FOR MARK

$$98) 4 - 2(x + 2) = 10$$
$$-2x - 4 = 6$$
$$-2x = 10$$
$$x = -5$$

8031 FOR MARK

$$99) 5(3x + 5) + 10 = -5(5 - x)$$
$$15x + 25 + 10 = -25 + 5x$$
$$15x - 5x = -25 - 35$$
$$10x = -60$$
$$x = -6$$

FOR MARK