Grade 9 - Answers

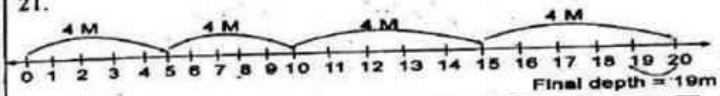
Junior School Assessment

MATHEMATICS **SECTION A**

1. B 2. A 3. C 4. B 5. A 6. D 7. D
8. B 9. A 10. B (rectify A, B, C, D in the QP)
11. C 12. C 13. B 14. C 15. A 16. C
17. A 18. C 19. D 20. B

SECTION B

21.



22. (a) 102.6acres (b) 103 acres

23.

$$L = \sqrt{48.44} \rightarrow \begin{array}{r} 6.9570 \\ 29 \overline{)} \\ 6.9599 \end{array}$$

Length = 6.9599 m

24. Boys = $^3/_5$ x 600 = 360 Boys in athletics = $^1/_3$ x 360 = 72
Girls = $^2/_5$ x 600 = 240 Girls in athletics = $^1/_6$ x 240 = 40

Total = 72 + 40 = 112 pupils

25. Lcm of 6 and 4 = 2 | 6 | 4
2 | 3 | 2
3 | 3 | 1
1 | 1

2 x 2 x 3 = 12 days

26. $\log_{10} 10000 = n \rightarrow 10^n = 10000 \rightarrow n = 4$

27.

Numerator	Denominator	$\frac{Num}{Den}$
$\frac{17}{8} + \frac{1}{4}\left(\frac{11}{8} - \frac{7}{8}\right)$	$3\frac{1}{8} \times \left(\frac{3}{4} \times \frac{8}{3}\right)$	$\frac{9}{4} + \frac{25}{4}$
$\frac{18}{7} + \frac{1}{4}\left(\frac{4}{8}\right)$	$3\frac{1}{8} \times \frac{2}{1}$	$= \frac{9}{4} \times \frac{4}{25}$
$\frac{17}{8} + \frac{1}{4} = \frac{18}{8} = \frac{9}{4}$	$\frac{25}{8} \times \frac{2}{1} = \frac{25}{4}$	$= \frac{9}{25}$

28. (a) Julia picks $\frac{1}{4}x$ and Bridget picks $\frac{1}{3}x$

(b) $\frac{1}{4}x + \frac{1}{3}x = \frac{7}{12}x$

(c) If $x = 3$ Bridgit = $\frac{1}{3} \times 12 = 4$ oranges

29.

(-2, 1) (6, 3)	(-2, 1) (x, y)	4y - 4 = x + 2	Y-intercept is the value of c. Hence y-intercept $^3/_2$ or (0, $^3/_2$)
$m = \frac{3-1}{6-(-2)} = \frac{2}{8} = \frac{1}{4}$	$\frac{y-1}{x+2} = \frac{1}{4}$	$4y = x + 6$	
		$y = \frac{x}{4} + \frac{3}{2}$	

30. (a) 8x - 5x > 4 + 2
3x > 6
x > 2

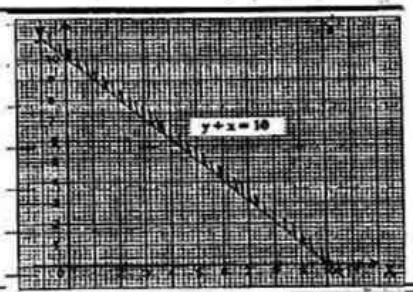
(b) (i) y + x > 10

(ii)

x	2	3	4	5	6
y	8	7	6	5	4

■ mark for of values

■

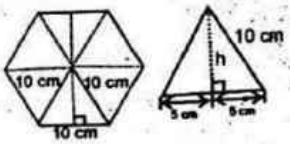


31. (a) Let a bag of cement be X
Bucket of sand be Y

(b) 3x + 4y = 3 100 .....(i)
2x + 6y = 2 900 .....(ii)

Multiply the equation (i) by 6 and equation (ii) by 4.
18x + 24y = 18 600
8x + 24y = 11 600 (subtract the two equations)
10x = 7 000
10 10
(simplify)
x = 700.
3x + 4y = 3 100
3(700) + 4y = 3 100
2 100 + 4y = 3 100
4y = 1 000
4 4
(simplify)
y = 250.
x = 700 and y = 250.
The cost of one bag of cement is Sh. 700 and the cost of one bucket of sand is Sh 250.

32.



$h = \sqrt{10^2 - 5^2}$
$= 8.66$ cm

Area of 1 triangle = $^1/_2$ x 8.66 cm x 10cm = 43.3 cm²
Area of 6 triangles = 43.3 x 6 = 259.8 cm²

33. $\frac{72km}{1h} = \left(\frac{72 \times 1000}{60 \times 60}\right)m/s = 20$ m/s

34. Volume = $\pi r^2 h$
= $^{22}/_7$ x 10.5 x 10.5 x 25
= 8662.5 cm³

But 1000 cm³ = 1 litre
= $\frac{8662.5}{1000}$ cm³ = 8662.5 litres
= 8.6625 litres

35. (a) $\frac{\theta}{360} 2\pi r = arc\ length$

$\frac{125}{360} \times 2 \times \frac{22}{7} \times x = 20$

$\frac{2.18254\,x}{2.18254} = \frac{20}{2.18254}$

$x = 9.16364$

9.16 cm.(2 d.p)

(b) P = 9.16 + 9.16 + 20 = 38.32 cm

36. S.A = (L × W)1 + 2(L × H) + 2(H × W)
= (4 × 3)1 + 2(4 × 0.5) + 2(0.5 × 3)
= 19 m².

37. Value after 1 year = (100% - 20%) x sh.80000

$\frac{80}{100} \times$ sh.800000 = sh.64000

38. (a) $\left(\frac{n-2}{n}\right) \times 180 = 135$

$(n-2)180 = 135n$

$180n - 360 = 135n$