**MARKING SCHEME:**

**FORM ONE MATHEMATICS: JULY/AUGUST 2015**

Numerator

1 a) -54+7-4-5

=-47-4-9

= -60 M1

Denominator

21-16+9

=14 M1

-60/14= -4.2857 A1

3

b)

Total value of 4 and5 is 40 and5 respectively M1

=40×5 A1

=200 2

2. 30×900

60 =450 M1

30×900

150 =180 M1

= 450 and 180 A1 3

3.Farming =1/4+3/16=7/16 M1

Food =1/9×9/16=1/16 M1

Total=7/16+1/16=1/2

Remaining ½=3400 M1

Salary=3400×2=sh. 6800 A1

4

4. Let x=3.25656565……………i

10x=32.5656……………………ii

100x=325.6565…………………iii M1

1000x=3256.5656………………iv

Subtract ii from iv 127 A1

990x=3254 = 3 495 2

5.

M1

5/11 + x = 4000/12000 M1

15=11+x

X=4 A1

3

6. a) x2 = 38.44m2 M2

Length = 6.2km

= 6.2 X 103 A1

2

b) Perimeter = 4×6.2m M1

=24800m A1 2

7. L.c.m =a2 b2 c2 M1

= bc + ac (a+b2 ) +ab

a2 b2 c2 M1

= b c + a2 c + a b2 c + a b A1

a2 b2 c2

4

8. a(x-y)+b(x-y) M1

a+b

= (a+b) (x-y) M1

(a + b) = (x-y) A1

3

9. Length = 1.25x,Width =0.9y M1

Area1 =xy cm2

Area2 =0.9y×1.25x =1.125 xycm2 M1

%increase = (1.125-1.00) ×100 = 12.5% A1

3

10. a : b : c

3 : 4 M1

5 : 7 M1

15;20;28

a;c = 15;20 A1

3

11. Number of men 45:72 while

Amount of work increases in by 72/45 ×210

Day’s increases in the ratio 60:50 while amount of work decreases M1

by 50/60 ×210

= 72×50×210 M1

45×60 =280 meters A1

2

12. 23—11.5 = 34.50c M1

A1

2

13. 37.4 x 10-4+ (5.034x 10-1)2

6.116 x 1/100 + 25.34 x 1/100 M1

0.06116 + 0.2534 M1

= 0.3146 A1

3

14. C = πD M1

= π (4.9+6.3+11.2) M1 = 70.372cm2 A1

3

L.C.M = 135 B1

135/60 =2 hrs 15 mins M1

11:00am- 2hrs 15 mins = 8:45 am A1

2/3 × 9/4 -1/4 × 2 =1 M1

3

16. arc length = 150/360 x 2 x 22/7 x 10.5 = 27.5 cm

(b) 27.5 = 44/7R

R = 4.375

**SECTION II (50 MARKS)**

17 a) 3/5 + ¼ (40/21) ×11/10 `M1

= ½ (3/5 +11/21) M1

= ½(118/105) = M1

= 59/105 A1

4

b) Area of tile 1/202  =1/400 cm2 M1

No. of tiles 6×5 ×400 M1

= 12000 tiles A1

3

c) L.c.m of 8, 13, 15

= 8 × 13 × 15 =1560 M1

= 1560/60 M1

=26 min A1

3

18. a) c.p =9×10=90 M1

Cost per orange sh.98/6 M1

= sh. 16.33 A1

3

b) Profit =8/90×100/6 M1

= 1.48% A1

3

c) (0.064 / 0.0004)1/2 M2

= 40 A2

4

19. a) area covered =99.36m2 M2

Less openings (99.36-8.60)m2=90.76 m2 M1

No of rolls (90.76/6.5) × 112/100 M1

= 15.6386=16 rolls A1

5

b) Cost = 16 ×150 + 20/100 ×16 × 150 M2

= 2400 +480 M1

= sh. 2880 A1

5

20. a) 0.4985 √(1776.22) =42.145 M2

√(1774.094+2.134) M1

= 498.5/42145 M1

= 0.0118 A1

5

b)x(4y-3)+2y(4y-3) M1

x+2y

(x+2y) (4y-3) M1

X+2y

= 4y-3 A1

3

if y = -2

y = 4(-2) -3 M1

= -11 A1

2

21. a) 41.58 × 4.095 × 100000 M1

1.365 × 20.79

4158 × 4095

1365 × 2079 M1

= 6 A1

3

b) Weight of girls = 140 kg

// Class = 266 kg M1

Mean weight of boys = (266-140)/3 M1

=42 kg A1

3

c) 4a=3b

a=3b/4 M1

= (18b/4 –b): (9b/4+3b)

= 7/2b:21b/4 M1

= 3.5:5.5 M1

= 7: 11 A1

4

22. a) 2(4x) = 8 ×4 M1

8x =32

X =4 M1

Length = 3x=3×4

=12cm A1

3

b) Area of floor=12×4=48m2 M1

No. of square tiles = 48×10000

20×20 M1

= 1200 tiles A1

3

c) Cost of tiles =1200×50 M3

= sh. 60000 A1

4

23. Let numerator denominator be x and x+4.

X + 1 = ½ M1

X +5

2(x+1) = 1(x+5) = 7 M1

X

X + 4 = 7/11 A1

3

b) G.C.D of

308 = 2 ×2 ×7 × 11 M1

228 = 2 ×2 ×3 ×19 M1

=2 × 2 = 4m A1

3

Let their ages bekamau-x, juma -3x/2 and okoth -3x/4 M1

c) x + 1.5x+0.75x=65 M1

x=20 M1

Their ages are:

Kamau-20 yrs

Juma -30 yrs A1

Okoth – 15 yrs

4

24. a) mass decreases in the ratio 13:5 = 650kg

Weight dried = 13/5 ×650 M1

= 1690 kg M1

2

b) i .fraction of 21 min in degrees = 21 × 360 M1

= 1260 60 A1 2

b) iArc length = 2×π× r ×0

360

0 = 1260, r = 8 cm

126× 2×π× 8 M1 360

= 17.59 cm A1

3

c) 9x2 + 6xy +y2 – (y2 -6xy + 9x2 ) M1

x2+ 2xy +y2 –(y2 -2xy+x2 )

= 12xy M1

4xy

= 3 A1

3