ANSWER KEY

1. **B**

Solution:
54 clay pots = 18 minutes
18/54 = ⅓ minute or 20 seconds
1 clay pot = 18/54 = ⅓ minute

81 clay pots = ⅓ x 81 = 27 minutes, which is Option B

2. **D**

Solution:
A 5 kg mixture of flour and sugar has 8% sugar by mass.

i.e,
5 x 0.08 = 0.4 kg of sugar and 5 - 0.4 = 4.6 kg of flour.
Now, x kg flour will be added to 5 kg of the mixture to make a new mixture of 4% sugar by mass.

i.e.
(x+5) x 0.04 = 0.4
0.04x = 0.2
x = 5kg, which is Option D

3. **E**

An organization has 400 members out of which 10% are of below 30 years of age,

i.e,
400 x 0.1 = 40 members out of 400 are of the age below 30 years. Now, if 40 more members are joining the organization and now 5% are below 30 years of age.
That is 800 x 0.05 = 40 members out of 800 are of the age below 30 years.

That means after the addition of 400 more members, there is no new member of

the age below 30 years, which is **Option E**

4. **C**

A car sale agent receives a 15% commission on the first sale worth $50,000, that is,
50,000 x 0.15 = $7,500 is the initial commission.

An additional 10% on any sale that exceeds the initial $50,000.
The sale agent earned a $25,000 commission
24,000 = 7,500 + 16,500

The additional $16,500 is 10% commission earned by exceeding sales of $165,000

Total sale = $165,000 + $50,000 = $215,000, which is **Option C**

5. **D**

A telephone company charges a connection fee of $1.75 per long-distance call plus 65 cents per minute.

If Ruby made 12 long-distance calls and each long-distance call lasted 55 minutes, then the total charge will be

(12 x 1.75) + (12 x 0.65 x 55)= $450, which is **Option D**.

6. **C**

Let x = number of friends
Total number of cans = 5x + 2

One friend didn't come. So, **x-1** and every friend that came drank 6 cans of soda.
6(x-1)
After the party, 3 cans left thus total number of cans will be
6(x-1)+3

5x+2=6(x-1)+3
5x+2 = 6x-3

x = 5, which is **Option C**

7. **A**

Let x percent of 50 is 90
That is, 50 x = 90 — 5x = 900 ⁄⁄100
x = 180 percent, which is **Option A**

8. **C**

The original price of the baseball card was $252. Peter increased the limited-edition baseball card price to 110% of the original price.

252 x 1.1=$277.2
But he sold the baseball card by decreasing the price by 10%,
277.2- 277.20.1 = 249.48, which is **Option C**.

9. **E**

400 workers 20% are females, i.e,
400 x 0.2= 80 are females.
Factory hired 40 additional workers and if we want to raise the female % by 25 %.

Then there will be the addition of
(440 x 0.25)-80 = 110-80 = 30 females will need to add more, which is Option E.

10. **E**

Powdered unicorn horn costs 8 golds per kilogram and mermaid's scale costs 15 golds per kilogram.

A wizard mixes 5 kilograms of unicorn horn and 2 kilograms of mermaid's scale to make a magic potion, then it will cost her
(5 x 8)+(15 x 2)=40+30 = $70 gold per kg, which is Option E.

11. **B**

Robbie the squirrel collects 40 nuts in an hour, i.e, 60 min.
In a minute the collection will be
40/60=23
Thus in 15 minutes, the collection will be
15 23=10 nuts, that is Option B

12. **B**

At each stop half of the passengers of the van get off without onboarding additional passengers.

On the third stop, the next to the last passenger gets off the van.

That is at the fourth stop it will be the last passenger, i.e, 1.
For 16,
1st stop get off number = 8
2nd stop get off number = 4
3rd stop get off number = 2
4th stop get off number = 1
Which is B

13. **D**

The sides of the square are 4 cm and the area of the square is 4 x 4=16 cm^2 .
Area of the rectangle = Area of the square = 16 cm^2
Also given that the longer side of the rectangle is 6 cm longer than the shorter one. If the shorter side is x then
Area of the rectangle = L W
16 = (x+6)x
16 = x^2 + 6x
x^2 + 6x -16 = 0
(x+8)(x-2) = 0
x = -8; x = 2
Thus thet dimensions of the rectangle is L=8; W=2
And the perimeter of the rectangle is 20 which is Option D.

14. **A**

Kyle has 10% more baseball cards than Xander's baseball cards, say 100.

Thus, Kyle has 110 cards.
If Kyle and Xander's card is equal then it has to be 105, which is 5 fewer cards
5/110 = 4.54 which is Option A.

15. **D**

Soda and sandwich = $40
Cookies and soda = $5.60
S + W = 4.40
S + C = 5.60
W = 1/2 C
S = 4.40 -1/2 C
S = 5.6 - C
5.6 - C= 4.40 -1/2 C
1.2 = 1/2 C
C=2.4
S= 5.60 - 2.4 =
$ 3.20 which is Option D

16. **A**

100% = 50 players
90% = 90% x 50 = 45 pro chess players
10% = 10% 50 = 5 amateur players
50 + 45 = 95 = 95%
= 50 players which is Option A.

17.**C**

The pattern of the number above the circle is the number on the left side lower circle divided

40/2 = 20, 90/3 =30, 160/4 = 40, n/5 = 50 x 5 = 250 which is Option C.

18.**B**

B - 5
R - 5 x 3 = 15

Future age
B = 5 + 5 = 10
R = 15 + 5 = 20

20/10 = 2. Therefore, the correct answer is Option B.

19. **E**

1 year = 4 books read 4x 10years = 40 books read + 10 years as member
2020 + 10 years = 2030 which is E.

20. **C**

8 + x + y = 55
x = 28
8 + 28 + y = 55
y = 19 which is Option C.

21. **A**

Formula to get the sum of interior angles: (n - 2) x 180
Let n = number of sides = 5
(5 - 2) x 180 = 540°
Sum on interior angles of a pentagon = 540°
540/5 = 108°, which is Option A

22. **E**

550 + (8% x 27 500) = 2750
27500 x 10% = 2750

Therefore, the correct answer is Option E

23. **A**

11 x 15 = 165
14 x 10 = 140
165 + 140 =305
305 = price /25 =total pineapple = $12.20, which is Option A

24.**C**

130 + 65 +60 + <ADC = 360
<ADC = 360 -255
<ADC = 105

25. **C**

1:3 = 10:30 x 2 = 20:60
20 +10 = 30:60 or 1:2
60 sour gumballs
Therefore, the correct answer is Option C

26. **A**

B = $14 / hr
V = 10.50/ hr
10.50 / 14 = x / 100
X = 75
100 - 75 = 25%

27.**B**

Only Option B is not divisible by 7 or 5 and cannot be added to get 23

28.**A**

A = 10 hrs
D = 6 hrs
1/T
1/T
1/10 + ⅛ = 8/30
4/15 = 1/T
T = 3.75 or 3 hours and 45 mins which is A.

29. **C**

G= 6 cm/ sec
1/3 U = G
U = 2M
M = ?

U = 18 cm / sec
18 / 2 = 9cm / sec
9 * 3600 hr = 32 400 cm

30. **E**
345:15 , 69:?
345/69 =5 15/5 = 3hrs
31. **B**

T = 3 / 30 =1/10
1/10 * 2 because double
1/5 * 15 mins = 3
Therefore, the correct answer is Option B

32. **D**

P = $80 and $56
12 pairs = $840
80* 7= 560

7 golds
840 -560 = 280
28/56= 5 pcs silver
Therefore 7 pairs of gold earrings

33. **C**

all right angle = 90
d=e =f = 360 - 90 = 270
minus 90 because triangle have 180 total less 90 for the right angle
so two 360 angles less 90
a+b+c +i+g+h = 360 x 2 - 90 = 630
270 + 630 = 900

34. **C**

30 % = attended
70% = did not attend
30:70
3:7 simplify

35. **A**

M:A = 3:4
O:A = 4:5
10 more orange than mango
M = ?
O = M + 10
M = 150
3/4 = 150/x
3x = 600
x = 200
160 / 200 = 8/10 = 4/5
So m = 150