Titan Genius Kidz National Arithmetic Championship – Oct 2010

Senior (8th, 9th and 10th Stds)

Answer Keys

(1) Ans: 320

(2) Ans: b) 6

(3) Ans: b)6.25

(4) Ans: d) 60

(5) Ans: 125

(6) Ans: 1111220

(7) Ans: a) Akshay

(8) Ans: b) 9   (No. of men = 9 No. of women = 18. If 9 should be 25%, 36 is 100%. 36-27 = 9)

(9) Ans: b) 6   (955 + 6 = 961 The square root of 961 is 31)

(10) Ans: b) 0.1532   (15.32 / 100 = 0.1532)

(11) Ans: c) 1

(12) Ans: 7962

(13) Ans: 1055

(14) Ans: 20

(t + p = 16, c + p = 32, c + t = 24,   hence 2t + 2p + 2c = 72, hence t + p + c = 36, hence 16 + c = 36, hence c = 20)

(15) Ans: b) 12.03 am   (3 minutes after mid night is 12.03 am)

(16) Ans: c) 32.6 m

(17) Ans: a) 1.995

(18) Ans: 3

(19) Ans: b) She lost in the bargain   (Mrs Edwards bought the dress at Rs 1040/- after bargaining. She could have bought it for Rs 975/- if she had not bargained)

(20) Ans: c) ½

(21) Ans: c) Rs 1840   (For one person the bill is Rs 460/- after adding tax. For 4 persons it is Rs 1840/-)

(22) Ans: e) 1 4/5

(23) Ans: a) 48.84

(24) Ans: a) 2.775

(25) Ans: 7.3333

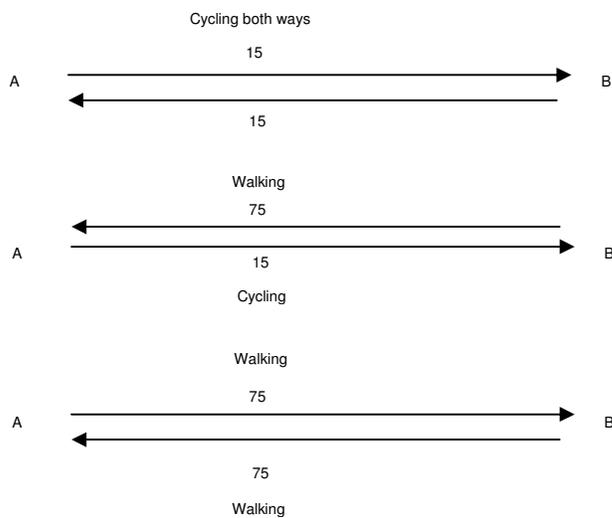(26) Ans: e) 16,000 miles

(27) Ans: 14969664

(28) Ans: 784624

(29) Answers:
1) Yamomoto Nakabara
2) Ji Sung Kui
3) 198 secs
4) Ji Sung Kui
5) Pedro Pinto
6) 102 secs

(30) Answers:
i) Zone 1, Zone 4, Zone 5 and Zone 6
ii) Zone 1, Zone 2, Zone 3 and Zone 4
iii)Zone 5 (-127 deg Cel)

(31) Ans: 150 mins

Cycling both ways

15

A ————————————————→ B

15

Walking

75

A ←———————————————— B

15

Cycling

Walking

75

A ————————————————→ B

75

Walking

(32) Answer: The difference between the original two digit numbers is 1   (4-3 = 1)

 Let the two-digits number be 10x+y. Then the three digit number is 100x + 50 + y. The difference between the two numbers is 410 = (100x+50+y)-(10x+y) = 90x+50. So 90x = 410-50 = 360, which gives x=4.
The sum of the digits of the three digits number is x+5+y = 4+5+y = 9+y which equals 12, so y=12-9=3
Thus the difference between the digits is 4-3 = 1

(33) Answer: Cube

Since the pyramid has the same base as the cube, but tapers to a point at the top (while the cube has the uniform cross section), the pyramid obviously fits inside the cube. So it must have smaller volume. (Remember that al l objects have the same height s) Similarly the cone has smaller volume than the cylinder. The sphere also fits inside the cylinder (just touching the equator and the poles), so the sphere also has smaller volume than the cylinder. Finally, the circular base of the cylinder fits inside the square base of the cube, so the whole cylinder fits inside the cube. Thus, the cube has the largest volume among the solids that Jennifer has.

(34) Ans: e) m^2 – m

(35) Ans: a = 2

(36) Ans: 4397