Powerprep Plus 2 Quant Set 4 Answers

Shayesteh.ir

1) C

SET 4

Correct rate: 95%

Difficulty: difficult

just remember all the numbers in the sequence are added a constant C the SD(standard deviation) remains. But when the numbers are multiplied by constant C the SD will multiply C

2) C

SET 4

Correct rate: 94%

Difficulty: difficult

$$\frac{3\times60}{48} = 3.75\ min$$

3) D

SET 4

Correct rate: 93%

Difficulty: difficult

$Substitute\ n = 1:$
$A = 1/3 = 0.33$
$B = 3/7 = 0.43$
$so\ A < B$
$substitute\ n = 2:$
$A = 1/9 = 0.11$
$B = 3/49 = 0.06$
$so\ A > B$
$so\ neither\ Determine\ the\ size$

4) C

SET 4

Correct rate: 29%

Difficulty: difficult

$$5x^{-3} - 9x^{-2} = 5\left(\frac{1}{2}\right)^{-3} - 9\left(\frac{1}{2}\right)^{-2} = 40 - 36 = 4$$

5) B SET 4

Correct rate: 54%

Difficulty: difficult

Length of an Arc $arc\ length = 2\pi r \times \frac{central\ angle\ of\ arc}{360} = 2\pi r \times \frac{120}{360} = (2r) \times \pi \times \frac{1}{3} \cong (2r) \times \frac{3.14}{3}$

sum of the interior angles S = (n – 2)180°

6) D

SET 4

Correct rate: 92%

Difficulty: difficult

7) D

SET 4

Correct rate: 71%

Difficulty: difficult

A－B＝－xy-x-xy= -2xy-x= -x(2y+1)
If 2y+1 is negative, then A is large.
If 2y+1 is positive, then B is large

8) C

SET 4

Correct rate: 62%

Difficulty: difficult

There are five colors in 30 pens, and six in each color. Question: At least how many pens can be obtained, at least two pens for each color. That is 4*6+2=26

9) C

SET 4

Correct rate: 79%

Difficulty: difficult

$$Price\ In\ A = \left(1 + \frac{1}{3}\right) Price\ In\ B$$

$$Price\ In\ A - \text{Price In B} = 0.35$$

$$\Longrightarrow \frac{1}{3}\text{Price In B} = 0.35 \Longrightarrow Price\ B = 1.05 \Longrightarrow Price\ A = 1.40$$

10) C SET 4

Correct rate: 89%

Difficulty: difficult

$$Area\ of\ Circle = \pi r^2 = z \Longrightarrow r = \sqrt{\frac{z}{\pi}}$$

$$\Longrightarrow Circumference\ of\ Circle = 2\pi r = 2\pi\sqrt{\frac{z}{\pi}} = 2\sqrt{z\pi}$$

$$\Longrightarrow Circumference\ of\ Circle = Perimeter\ of\ Square\ = 4a$$

$$\Longrightarrow 2\sqrt{z\pi} = 4a \Longrightarrow a = \frac{\sqrt{z\pi}}{2}$$

$$\Longrightarrow Area\ of\ Square\ = a^2 = \frac{z\pi}{4}$$

11) D

SET 4

Correct rate: 75%

Difficulty: difficult

S: $\frac{7}{3°}, \frac{7}{4°}, \frac{7}{5°}, \frac{7}{6°}, \frac{7}{7°}, \frac{7}{8°}, \frac{7}{9°}$

$$\frac{7}{8°} - \frac{7}{9°} = \frac{7}{72°} = 70th\ term$$

12) E

SET 4

Correct rate: 85%

Difficulty: difficult

$$\tan 60° = \frac{PQ}{QO} \Longrightarrow \frac{\sqrt{3}}{3} = \frac{3}{-QO} \Rightarrow QO = P_x = -3\sqrt{3}$$

13) C

SET 4

Correct rate: 79%

Difficulty: difficult

$$\frac{3}{7} = \frac{1-x}{x} \Rightarrow x = \frac{7}{10}$$

14) D

SET 4

Correct rate:69%

Difficulty: difficult

$$\frac{40-(22+6+8)}{22+6+8}=\frac{4}{36}\cong 11\%$$

15)B SET 4

Correct rate: 23%

Difficulty: difficult

میانگین متوسط (حسابی) قبض های رانندگانی که به تعداد ۶ و یا بیشتر، قبض گرفته اند، چه عددی می باشد (قبل از قبض ششم و یا قبض های بیشتر)؟

To find the arithmetic average of the number of tickets for drivers who have been issued 6 or more times, the total number of tickets must be subtracted from the number of tickets for each frequency, and then divided by the number of drivers who have been issued 6 or more times (8 drivers):

$$\frac{420 - 52\times1 + 35\times2 + 40\times3 + 22\times4 - 5\times6}{8} = 7.5$$

16) A SET 4

Correct rate: 69%

Difficulty: difficult

The median of each driver's ticket is required. Each driver's ticket may be one of 1, 2, 3, 4, 5, 6 or more, and the number of each type is different, 52 1, 35 2, 40 3, 22 4, 6 5, 8 6or more, which means that the number of tickets for each driver has been sorted, just find the median
(52+35+40+22+6+8) /2=81.5
occurred in the pile where the ticket is 2, so the median is 2

17) B

SET 4

Correct rate: 86%

Difficulty: difficult

$$\pi(\frac{D}{2})^2-7\times\pi\left(\frac{D}{6}\right)^2=\frac{9\pi D^2-7\pi D^2}{36}=\frac{\pi D^2}{18}$$

18) A, F SET 4

Correct rate: 64%

Difficulty: difficult

8=2*2*2
50=2*5*5
so the least common multiple 2*2*2*5*5=200
The least common multiple of 8 and 50 is 200, only 7000 and 7200 can divide 200 evenly

19) 1/6

SET 4

Correct rate: 82%

Difficulty: difficult

$3x + y = 2$

$3x + 2y = 0$

$x - 2z = 1$

$\Longrightarrow y = -2$

$\Longrightarrow x = \frac{4}{3}$

$\Longrightarrow z = \frac{1}{6}$

20)B, D, F SET 4

Correct rate: 77%

Difficulty: difficult

$16(1) + 3 = 19 \implies 6(3) + 1$
$16(2) + 3 = 35 \implies 6(5) + 5$
$16(3) + 3 = 51 \implies 6(8) + 3$
$16(4) + 3 = 67 \implies 6(6) + 1$
$16(5) + 3 = 83 \implies 6(13) + 5$
$so\ 1,5,3 \ldots Escape\ ring$

Thanks