Powerprep Plus 4 Quant Set 3 Answers

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1) B

SET 3

Correct rate: 94%

Difficulty: medium

$x + 0.2x = 1.2x$
A: $0.8 \times 1.2x = 0.96x$
B: X
$A < B$

2) A SET 3

Correct rate: 93%

Difficulty: medium

$Oz > Oy \Longrightarrow COD° < AOB° \Longrightarrow Length\ of\ Arc\ CD < Length\ of\ Arc\ AB$

3) A

SET 3

Correct rate: 87%

Difficulty: medium

$$\frac{1}{n} > \frac{1}{n+10}$$

$$\frac{1}{n+s} > \frac{1}{n+10}$$

$$\frac{1}{n+10} = \frac{1}{n+10}$$

$$\Rightarrow \frac{1}{n} + \frac{1}{n+s} + \frac{1}{n+10} > \frac{3}{n+10}$$

4) D SET 3

Correct rate: 90%

Difficulty: medium

$Say\ this\ is\ a\ set$

$[\ 1,3,5,7,9,\ 21,23,25,27,29] \implies Median\ 15$

$[\ 11,12,13,14,15,25,26,27,28,29] \implies Median\ 20$

$[15,16,17,18,19,\ 31,32,34,36,37] \implies Median\ 25$

$Lots\ of\ sets\ like\ this\ is\ possible\ with\ different\ Medians.\ So\ it\ can\ be\ smaller\ or\ greater\ than\ 20\ .$

$So, The\ relationship\ cannot\ be\ determined\ from\ the\ information\ given.$

5) C

SET 3

Correct rate: 83%

Difficulty: medium

$A: (18-6)\times(24-6)=216$

$B: 18\times24-(18-6)\times(24-6)=216$

6) C

SET 3

Correct rate: 96%

Difficulty: medium

$x < 0 \Longrightarrow |x| = -x$

$y > 0 \Longrightarrow |y| = y$

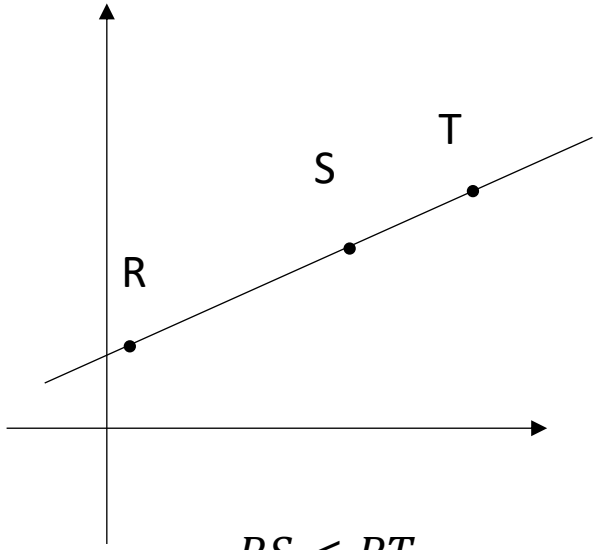
$\Longrightarrow \frac{|x|}{|y|} = \frac{-x}{y}$

7) D

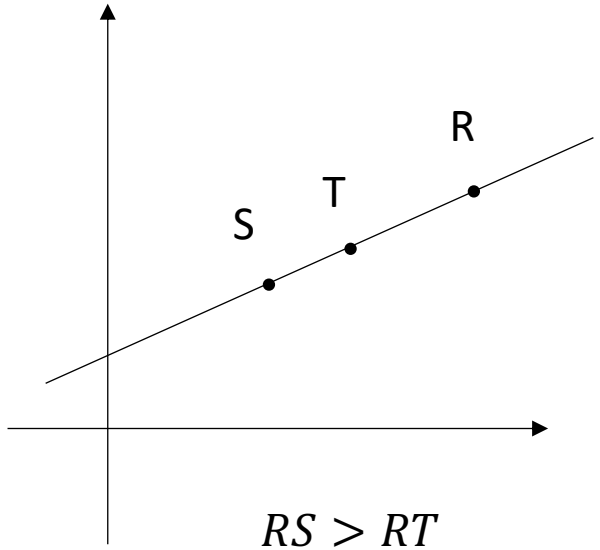
SET 3

Correct rate: 87%

Difficulty: medium



$RS < RT$



$RS > RT$

8) 22

SET 3

Correct rate: 83%

Difficulty: medium

Jake=68

Ito=85

Mary=90

Range=90-68=22

9) B SET 3

Correct rate: 91%

Difficulty: medium

$$40\left(Miles/Hours\right)\times 5{,}280\left(Feet/Miles\right)\times\frac{1}{60\times 60}\left(Hours/Second\right)=58.66\ \left(Feet/Second\right)$$

$$\text{Reaction Time}\times Speed=\frac{3}{4}\ (Second)\times 58.66\left(Feet/Second\right)\cong 45\ Feet$$

10) B SET 3

Correct rate: 89%

Difficulty: medium

$\frac{7^{49}+1}{7}$, $\frac{1}{7}$ $is\ not\ an\ integer, so\ the\ whole\ is\ not\ an\ integer$

$\frac{7^{49}+1}{7^2}$, $\frac{1}{7^2}$ $is\ not\ an\ integer, so\ the\ whole\ is\ not\ Under\ the\ integer$

$7^{49}:\ odd\ , Thus, 7^{49}+1:\ even$

11) C SET 3

Correct rate: 95%

Difficulty: medium

$a_1 = (2\times1 - 3)^2 = 1$

$a_2 = (2\times2 - 3)^2 = 1$

$a_3 = (2\times3 - 3)^2 = 9$

$a_1 + a_2 + a_3 = 11 \Longrightarrow k = 3$

12) C

SET 3

Correct rate: 94%

Difficulty: medium

$$\frac{0.250 - 0.085}{0.250} = \frac{0.165}{0.250} = 66\%$$

13) D SET 3

Correct rate: 92%

Difficulty: medium

Nickels account for four-fifths of the total, then dimes account for one-fifth, 12*5=60, the final total is 60, minus the original 20 coins, and 40 Nickels need to be added

14) D

SET 3

Correct rate: 90%

Difficulty: medium

$$\frac{24}{22} \cong 110\%$$

15) C SET 3

Correct rate: 66%

Difficulty: medium

$$\frac{(22.5+19.5+21)\times 200+(24+21+21+18)\times 150}{7}=\frac{25{,}200k}{7}=360k$$

25200k is the total cost of the company for 7 years. Divide by 7 (years) to get the annual Average total cost

16) D SET 3

Correct rate: 87%

Difficulty: medium

$The\ question\ is\ about\ the\ ratio\ of\ the\ annual\ average\ wage\ difference$

$Co.X = 24 - 18 = 6$

$Co.A = 24 - 21 = 3$

$so\ the\ ratio\ of\ the\ two\ is\ 6:3 = 2:1$

17) -15

SET 3

Correct rate: 93%

Difficulty: medium

$x = 0 \Longrightarrow y = -15$

18) A

SET 3

Correct rate: 92%

Difficulty: medium

$$\frac{2}{5!} = \frac{2}{120} = \frac{1}{60}$$

19) A, B SET 3

Correct rate: 81%

Difficulty: medium

If the quotient of n divided by 4 is a, then 4a+2=n;
if the quotient of n divided by 3 is b, then 3b+1=n;
so 4a+2=3b+1=n.
It can be seen that the quotients a and b must be positive integers.
When a=1, n=6, but b is a fraction, so discarded.
When n is equal to 2, n=10, then b=3, which satisfies the condition. A is correct.
4a+2=n is always even, so n is even and B is correct.
If n=10, C is not correct.

20) A SET 3

Correct rate: 87%

Difficulty: medium

When multiplying the slope of 2 perpendicular lines the result is -1

Thanks