

# Powerprep Plus 3 Quant Set 3 Answers

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1) B

SET 3

Correct rate: 90%

Difficulty: medium

$$\text{Resulting price} = \text{price} \left(1 - \frac{x}{100}\right) = \text{price} \left(1 - \frac{x}{100} \left(1 - \frac{y}{100}\right)\right)$$

$$\text{Resulting price A} = \text{price} \left(1 - \frac{x}{100}\right) \left(1 - \frac{y}{100}\right) = \text{price} \left(1 - \frac{10}{100}\right) \left(1 - \frac{30}{100}\right) = 0.54 \text{ Price}$$

$$\text{Resulting price B} = \text{price} \left(1 - \frac{x}{100}\right) \left(1 - \frac{y}{100}\right) = \text{price} \left(1 - \frac{20}{100}\right) \left(1 - \frac{20}{100}\right) = 0.64 \text{ price}$$

2) D

SET 3

Correct rate: 95%

Difficulty: medium

$$\text{if } S = 10, t = 20, u = 2 \Rightarrow s + \frac{t}{u} = 10 + 2 = 12$$

$$\text{if } S = 10, t = 2, u = 20 \Rightarrow s + \frac{t}{u} = 10 + 0.1 = 10.1$$

3) A

SET 3

Correct rate: 93%

Difficulty: medium

4) C

SET 3

Correct rate: 89%

Difficulty: medium

$$f(x) = x^{-100} = (2)^{-100} = (-2)^{-100}$$

5) B

SET 3

Correct rate: 77%

Difficulty: medium

$$18m = 3^2 2m \Rightarrow m = 2$$

$$9n = 3^2 n \Rightarrow n = 3$$

6) A

SET 3

Correct rate: 82%

Difficulty: medium

$$B: \frac{50!}{24! \times 26!} = \frac{50!}{24! \times 26!} \times \frac{25}{25} = \frac{50!}{25! \times 25!} \times \frac{25}{26}$$

7) D

SET 3

Correct rate: 94%

Difficulty: medium

$$3x + 4y = 2$$

$$6x + 8y = 4 \Rightarrow 3x + 4y = 2$$



8) A, C

SET 3

Correct rate: 81%

Difficulty: medium

$$A: 1200 \times 30\% = 360$$

$$B: 1200 \times 20\% + 10 = 250$$

$$C: 1200 \times 25\% + 60 = 360$$

9) C

SET 3

Correct rate: 84%

Difficulty: medium

*Assuming that the number of people who voted yes to both R and S is  $x$ , then:*

$$750 + x = 2(310 + x)$$

*solves for  $x = 130$*

10) A

SET 3

Correct rate: 97%

Difficulty: medium

$$\frac{3}{8} \times \frac{2}{9} \times x = 4 \Rightarrow x = 48$$

11) C

SET 3

Correct rate: 95%

Difficulty: medium

$B = 3P$

It's given there are 6 Blankets so  $6(3P) = 18P$

It's given there are 3 pillows so  $3P$

Ratio =  $18P/3P = 6/1 = 6:1$

12) C

SET 3

Correct rate: 93%

Difficulty: medium

$$BC = CD$$

$$\sin 45 = \frac{BC}{BD} = \frac{CD}{BD} \Rightarrow \frac{\sqrt{2}}{2} = \frac{BC}{12} \Rightarrow BC = 6\sqrt{2}$$

$$ABCDE = 12 + 5 + 6\sqrt{2} + 6\sqrt{2} + 5 = 12\sqrt{2} + 22$$

13) E

SET 3

Correct rate: 94%

Difficulty: medium

$$(a - b) - (c - d) = a + d - b - c = (a + b) - (b + c)$$

14) D

SET 3

Correct rate: 88%

Difficulty: medium

sorting is 35.0, 46.4, 48.5, 57.6, 60.0, 70.1, 78.2

there are a total of 7 groups, the sales of the middle group is 57.6

# 15) C

# SET 3

Correct rate: 85%

Difficulty: medium

First look at the top three earnings, which are 92,93,96, and then look at the data corresponding to sales to find the average.

Year	Earning	Sales
1992	7.5	60
1993	6.3	48.5
1996	8	78.2

$$\text{Average} = \frac{60 + 48.5 + 78.2}{3} = 62.23 \text{ m} \cong 62,000$$



16) D

SET 3

Correct rate: 96%

Difficulty: medium

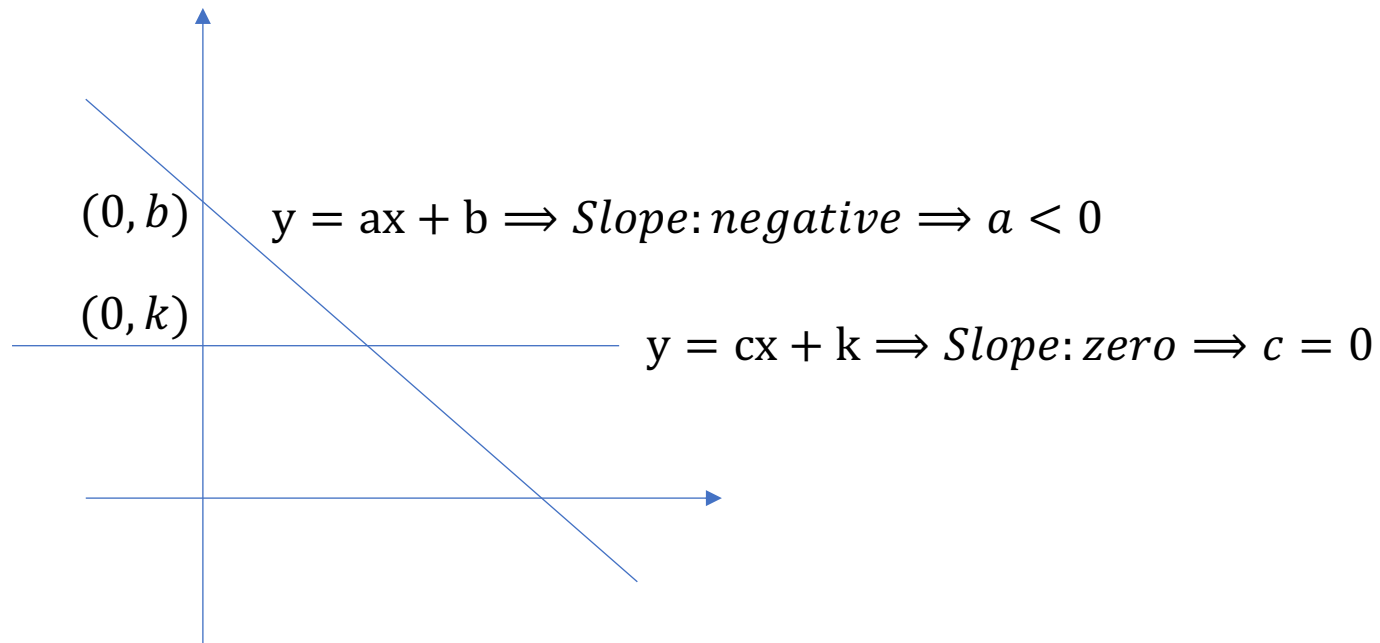
$$\frac{78.2 - 46.4}{46.4} = 68\% \cong 70\%$$

17) B, C

SET 3

Correct rate: 86%

Difficulty: medium



18) 133.2      SET 3

Correct rate: 91%

Difficulty: medium

$$\frac{42 \times 110 + 58 \times 150}{100} = \frac{4,620 + 8,700}{100} = 133.2$$

19) C

SET 3

Correct rate: 92%

Difficulty: medium

$$V_L = 2V_S \Rightarrow a_L^3 = 2a_S^3 = 2 \times 2^3 \Rightarrow a_L = 2^{\sqrt[3]{2}}$$

20) C

SET 3

Correct rate: 90%

Difficulty: medium

$$\frac{x + (x + 2) + (x + 4) + (x + 6)}{4} = 6 \Rightarrow x = 3$$

$$\frac{x^2 + (x + 2)^2 + (x + 4)^2 + (x + 6)^2}{4} = 41$$

# Thanks