

**TNPSC Group 4 Study Material****Simplification**

1) ?% of 280 + 18% of 550 = 143.8

- a) 11
- b) 18
- c) 21
- d) 16
- e) None of these

**Answer:** d) 16

**Explanation:**

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$$\frac{280 \times ?}{100} + \frac{550 \times 18}{100} = 143.8$$

$$\Rightarrow 280 \times ? + 9900 = 143.8 \times 100 = 14380$$

$$\Rightarrow 280 \times ? = 14380 - 9900 = 4480$$

$$\therefore ? = \frac{4480}{280} = 16$$

2)  $8.88 \times 88.8 \times 88 = ?$

- a) 68301.142
- b) 79391.642
- c) 65365.824
- d) 76218.414
- e) None of these

**Answer:** e) None of these

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**Explanation:**

$$? = 8.88 \times 88.8 \times 88 = 69391.872$$

3)  $64^{12} \div 4^{15} = 64?$

- a) 9
- b) 3
- c) 12
- d) 7
- e) None of these

**Answer:** d) 7

**Explanation:**

$$64^{12} \div (4)^{15} = 64^?$$

$$\Rightarrow 64^{12} \div (4^3)^5 = 64^?$$

$$[\because (a^m)^n = a^{mn}]$$

$$\Rightarrow 64^{12} \div 64^5 = 64^?$$

$$\Rightarrow 64^{12-5} = 64^? \Rightarrow 64^7 = 64^? \Rightarrow ? = 7$$

$$[\because a^m = a^n \Rightarrow m = n]$$

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4)  $\sqrt{97344} = ?$

- a) 302
- b) 322
- c) 292
- d) 312
- e) None of these

**Answer:** d) 312

**Explanation:**

$$? = \sqrt{97344} = 312$$

5)  $(\sqrt{7} + 11)^2 = (?)^{1/3} + 2\sqrt{847} + 122$

- a) 1)
- b) 6
- c) 216
- d) 36
- e) None of these

**Answer:** c) 216

**Explanation:**

$$(\sqrt{7} + 11)^2 = (?)^{\frac{1}{3}} + 2\sqrt{847} + 122$$

$$\Rightarrow (\sqrt{7})^2 + (11)^2 + 2\sqrt{7} \times 11$$

$$= (?)^{\frac{1}{3}} + 2\sqrt{847} + 122$$

$$\Rightarrow (?)^{\frac{1}{3}} = 128 - 122 = 6$$

$$\therefore ? = 6 \times 6 \times 6 = 216$$