NUMBER ANALOGY ANSWERS

1. 0.75 is to ¾ as 0.8 is to _____

1. 2/3 2.4/5 3.5/6 4.6/7 5. 3/5

Solution 1: Comparison
If you convert 0.75 into fraction form:

$$0.75 = \frac{75}{100} = \frac{3 \times 25}{4 \times 25} = \frac{3 \times \cancel{25}}{4 \times \cancel{25}} = \frac{3}{4}$$

therefore the ratio 0.75 is to ¾ or $\frac{0.75}{3/4}$ is equal to one. Since the first ratio is equal (0.75=3/4), you only need to find the fraction form that would equal to 0.80:

$$0.80 = \frac{80}{100} = \frac{8 \times \cancel{10}}{10 \times \cancel{10}} = \frac{4 \times \cancel{2}}{5 \times \cancel{2}} = \frac{4}{5}$$

Solution 2: Ratio and Proportion Convention

0.75 is to ¾ as 0.8 is to X, (X is unknown).

$$0.75 : \frac{3}{4} = 0.8 : X$$

$$\frac{0.75}{3/4} = \frac{0.8}{X}$$

Convert 0.75 and 0.8 to fraction form. (Review Fractions: $0.1 = \frac{10}{100}$ *or* $\frac{1}{10}$, $0.01 = \frac{1}{100}$)

$$\frac{75/100}{3/4} = \frac{80/100}{X}$$

$$\frac{75}{100(\frac{3}{4})} = \frac{80}{100(X)}$$

$$\frac{75\ (4)}{100(3)} = \frac{80}{100(X)}$$

$$X = \frac{80\cancel{(100)}(3)}{\cancel{100}(75)(4)} = \frac{80(3)}{(75)(4)} = \frac{20\ \cancel{(4)}\cancel{(3)}}{25\cancel{(3)}\cancel{(4)}} = \frac{4\ \cancel{(5)}}{5\cancel{(5)}}$$

$$X = \frac{4}{5}$$

2. 75% is to 1/2 as 45% is to _____

1. 3/11 2.3/10 3.3/4 4.2/3 5. 3/5

Solution: Ratio and Proportion Convention

75% is to ½ as 45% is to X, (X is unknown).

$$75\%:\frac{1}{2} = 45\%:X$$

$$\frac{75\%}{1/2} = \frac{45\%}{X}$$

Convert 75% and 80% to fraction form. (Review"Percentage is a way of expressing a number as a fraction of 100 (per cent meaning "per hundred" in Latin) 75% = 75/100, 80% = 80/100 like any number with a % sign like 0.01% = .01/100 and 2000% = 2000/100

$$\frac{75/100}{1/2} = \frac{45/100}{X}$$

$$\frac{75}{100(1/2)} = \frac{45}{100(X)}$$

$$\frac{75\ (2)}{100(1)} = \frac{45}{100(X)}$$

$$X = \frac{45\cancel{(100)}(1)}{\cancel{100}(75)(2)} = \frac{45}{(75)(2)} = \frac{\cancel{5}\,(9)}{\cancel{5}(15)(2)} = \frac{3\cancel{(3)}}{5\cancel{(3)}(2)}$$

$$X = \frac{3}{10}$$

3. 0.25 is to 0.125 as to 1.25 is to _____

1. 0.625 2. 1.125 3. 1.625 4. 2.125 5. 6.250

Try Solving This:

Solution 1: By Comparison

Solution 2: By Ratio and Proportion Convention

4. 2 is to 50 as 3.2 is to _____

1. 60 2. 70 3.80 4.90 5. 160

Try Solving This by Ratio and Proportion Convention

5. 14 is to 28 as 5 is to _____

1. 7 2. 8 3.9 4.10 5. 15

6. 1 is to 1/4 as 5/25 is to _____

1. 1/16 2.1/18 3.2/6 4.3/4 5. 1/20

7. 0.35 is to 7 as 0.45 is to _____

1. 8 2.9 3.12 4.14 5. 0.9

8. 1/3 is to 2/18 as 1/12 is to _____

1. 2/72 2. 2/48 3.3/36 4.3/25 5. 1/72

9. 3/8 is to 12/32 as 2/5 is to _____

1. 8/20 2. 10/23 3.6/13 4.4/6 5. 5/6

10. 1/3 is to 3/7 as 1/6 is to _____

1. 3/14 2. 1/5 3.1/4 4.1/3 5. ½

11. 0.4 is to 2/5 as 0.6 is to _____

1. 20 2. 4/5 3.3/10 4.3/5 5. 1/5

12. 0.2 is to 0.4 as 0.3 is to _____

1. 0.009 2. 0.0009 3.0.09 4. 0.9 5. 9.0

13. 8 is to 2^3 as 27 is to _____

1. 3^3 2. 5^3 3. 9^3 4. 3^9 5. 4^3

14. 0.5 is to 1/2 as 0.65 is to _____

1. 11/20 2.13/20 3.15/20 4.17/20 5. 14/20

15. 1/3 is to 3 as 2/8 is to _____

1. 2 2.4 3.6 4.8 5. 10

16. 30% is to 3/5 as 80% is to _____

1. 1 1/5 2.1 2/5 3.1 3/5 4.1 4/5 5. 2

17. 0.30 is to 0.075 as 0.15 is to _____

1. 0.000375 2. 0.00375 3.0.0375 4.0.375 5.none

18. 2/5 is to 20% as ¾ is to _____

1. 35.5% 2. 37.0% 3. 37.5% 4. 39.0% 5. 36.5%

19. 625 is to 81 as 5 is to _____

1. 3 2. 4 3.6 4.9 5. 0.648

Note:*Solution is by comparison. The ratio here is exponential:* 5^4:3^4*, after knowing this the answer is obvious. It is 3. Review special numbers like the squares of number. My first analysis here is that it is* 25^2 and 9^2 *and I know that* 25 *and* 9 *are*5^2 *and*3^2 *which made me arrive to the same answer* 3.

20. 8 is to 11 as 36 is to _____

1. 49.50 2. 55.00 3. 59.50 4. 65.00 5. 69.50

21. 2 is to 2.5 as 4 is to _____

1. 3 2.5 3.7 4.9 5. 6

22. 2 is to 8 as 4 is to _____

1. 18 2. 32 3.36 4.66 5.none