Aptitude - Squares & Cubes Examples

Q 1 - √ 2025 = ?

A - 45

B - 35

C - 34

D - 30

Answer - A

Explanation

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Resolve 2025 into prime numbers first.
2025 = 5 x 5 x 3 x 3 x 3 x 3 = 5^2 x 3^2 x 3^2
∴ √2025 = 5 x 3 x 3 = 45
```

Q 2 - √ 54 x √ 6 = ?

A - 24

B - 15

C - 18

D - 13

Answer - C

Explanation

$\sqrt{54} \times \sqrt{6} = \sqrt{54 \times 6} = \sqrt{(3 \times 3 \times 6 \times 6)}$
$= \sqrt{(3^2 \times 6^2)}$
$= \sqrt{18}$

Q 3 - $\sqrt{(248 + \sqrt{(51 + \sqrt{169})})}$ = ?

A - 15

B - 12

C - 13

D - 16

Answer - D

Explanation

$\sqrt{(248 + \sqrt{(51 + \sqrt{169})})} = \sqrt{(248 + \sqrt{(51 + 13)})}$
$= \sqrt{(248 + \sqrt{(64)})} = \sqrt{(248 + 8)} = \sqrt{(256)} = 16$

Q 4 - $\sqrt{(25/16)}$ = ?

A - 3/4

B - 5/4

C - 4

D - 4/5

Answer - B

Explanation

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√(25/16) = √25/ √ 16 = 5/4.
```

Q 5 - If √15 = 3.88. What is √(5/3)?

A - 1.213

B - 1.293

C - 1.321

D - 1.432

Answer - B

Explanation

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√(5/3) = (√5 / √ 3) x (√3 / √ 3) =  √15 / 3 = 3.88/ 3 = 1.293
```

Q 6 - If √ 1369 = 37 then what is √13.69 + √0.1369 + √ 0.001369 + √ 0.00001369?

A - 4.0021

B - 4.1107

C - 3.1232

D - 2.1323

Answer - B

Explanation

```
√13.69 + √0.1369 + √ 0.001369 + √ 0.00001369
= √(1369 / 100) + √(1369/ 10000) + √(1369/ 1000000) + √(1369/ 100000000)
= √1369 / √100 + √1369 / √10000 + √1369 / √1000000 + √1369 / √100000000
= 37/10 + 37/100 + 37/1000 + 37/ 10000
= 3.7 + 0.37 + 0.037 + 0.0037
 = 4.1107
```

Q 7 - If √ 15 = 3.8729 then what is (√5 + √3)/(√5 - √3)?

A - 7.8729

B - 6.8729

C - 5.8729

D - 4.8729

Answer - A

Explanation

```
(√5 + √3)/(√5 - √3)
= (√5 + √3)/(√5 - √3) * (√5 + √3)/(√5 + √3)
= (√5 + √3)^2/(5 - 3)
= (5 + 3 + 2√5 + √3)/2
= (8 + 2√15)/2
= 2(4 + √15)/2
= 4 + √15
= 4 + 3.8729
= 7.8729
```

Q 8 - $\sqrt[3]{9261}$ = ?

A - 21

B - 17

C - 29

D - 23

Answer - A

Explanation

$9261 = 3 \times 3 \times 3 \times 7 \times 7 \times 7$
$= 3^3 \times 7^3$
$\therefore \sqrt[3]{9261} = (3^3 \times 7^3)^{1/3}$
$= 3 \times 7 = 21.$

Q 9 - What is the least number required to multiply to 9720 to make a perfact cube?

A - 55

B - 65

C - 75

D - 85

Answer - C

Explanation

$9261 = 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 3 \times 3$
$= 2^3 \times 3^3 \times 3^2 \times 5$

∴ required no: $3 \times 5^2 = 3 \times 25 = 75$