

UNIT 1 Indices

Mental Tests

Test 1.1

1. 2^3 (8)
2. 5^2 (25)
3. 3^2 (9)
4. 4^3 (64)
5. 7^2 (49)
6. 3^3 (27)
7. 8^2 (64)
8. 4^2 (16)
9. 9^2 (81)
10. 6^2 (36)

Test 1.2

1. 1^2 (1)
2. 2^2 (4)
3. 5^3 (125)
4. 4^2 (16)
5. 9^2 (81)
6. 10^2 (100)
7. 7^2 (49)
8. 1^3 (1)
9. 8^2 (64)
10. 10^3 (1000)

Test 1.3

1. $\sqrt{16}$ (4)
2. $\sqrt[3]{8}$ (2)
3. $\sqrt{100}$ (10)
4. $\sqrt[3]{27}$ (3)
5. $\sqrt{49}$ (7)
6. $\sqrt{64}$ (8)
7. $\sqrt{25}$ (5)
8. $\sqrt[3]{64}$ (4)
9. $\sqrt{81}$ (9)
10. $\sqrt{36}$ (6)

Test 1.4

1. $\sqrt{100}$ (10)
2. $\sqrt[3]{1}$ (1)
3. $\sqrt{4}$ (2)
4. $\sqrt[3]{1000}$ (10)
5. $\sqrt{9}$ (3)
6. $\sqrt{49}$ (7)
7. $\sqrt{121}$ (11)
8. $\sqrt{25}$ (5)
9. $\sqrt[3]{125}$ (5)
10. $\sqrt{144}$ (12)

Test 1.5

1. $16^{\frac{1}{4}}$ (2)
2. 4^{-1} $\left(\frac{1}{4}\right)$
3. $32^{\frac{4}{5}}$ (16)
4. $27^{\frac{2}{3}}$ (9)
5. $8^{-\frac{1}{3}}$ $\left(\frac{1}{2}\right)$
6. $\left(\frac{1}{4}\right)^{\frac{1}{2}}$ $\left(\frac{1}{2}\right)$
7. 6^0 (1)
8. $\left(\frac{2}{7}\right)^{-2}$ $\left(\frac{49}{4}\right)$
9. $4^{1.5}$ (8)
10. $1000^{\frac{2}{3}}$ (100)

Test 1.6

1. 5^{-2} $\left(\frac{1}{25}\right)$
2. $16^{-\frac{1}{4}}$ $\left(\frac{1}{2}\right)$
3. $1^{-\frac{1}{2}}$ (1)
4. $81^{\frac{1}{4}}$ (3)
5. $16^{-1.5}$ $\left(\frac{1}{64}\right)$
6. $27^{\frac{1}{3}}$ (3)
7. $64^{-\frac{2}{3}}$ $\left(\frac{1}{16}\right)$
8. $125^{-\frac{2}{3}}$ $\left(\frac{1}{25}\right)$
9. $1000^{-\frac{1}{3}}$ $\left(\frac{1}{10}\right)$
10. $\left(\frac{1}{9}\right)^{-\frac{1}{2}}$ (3)

Test 1.7

1. $\sqrt[3]{27} + \sqrt{64}$ (11)
2. $\sqrt{100} - \sqrt[3]{64}$ (6)
3. $125^{-\frac{1}{3}}$ $\left(\frac{1}{5}\right)$
4. $\left(\frac{49}{36}\right)^{-\frac{1}{2}}$ $\left(\frac{6}{7}\right)$
5. $\left(\frac{3}{4}\right)^{-2}$ $\left(\frac{16}{9}\right)$
6. $9^{1.5}$ (27)
7. $1000^{-\frac{2}{3}}$ $\left(\frac{1}{100}\right)$
8. $27^{\frac{1}{3}} \times 8^{\frac{1}{3}}$ (6)
9. $\left(\frac{2}{5}\right)^{-3}$ $\left(\frac{125}{8}\right)$
10. $\left(\frac{144}{169}\right)^{-\frac{1}{2}}$ $\left(\frac{13}{12}\right)$

Test 1.8

1. $\sqrt[3]{8} + \sqrt{49}$ (9)
2. $\sqrt{36} \times \sqrt[3]{125}$ (30)
3. $\left(\frac{1}{4}\right)^{-3}$ (64)
4. $(2^2)^3$ (64)
5. $100^{\frac{1}{2}} \times \left(\frac{2}{5}\right)^{-1}$ (25)
6. $16^{-1.25}$ $\left(\frac{1}{32}\right)$
7. $32^{\frac{2}{5}}$ (4)
8. $\left(\frac{5}{7}\right)^{-2}$ $\left(\frac{49}{25}\right)$
9. $\left(\frac{169}{25}\right)^{\frac{1}{2}}$ $\left(\frac{13}{5}\right)$
10. $\left(\frac{50}{72}\right)^{-\frac{1}{2}}$ $\left(\frac{6}{5}\right)$