A2.N.5: Rationalize a denominator containing a radical expression

1. 060305b, P.I. A2.N.5

   Which expression is equivalent to $\dfrac{4}{3+\sqrt{2}}$?

   [A] $\dfrac{12-4\sqrt{2}}{7}$ [B] $\dfrac{12-4\sqrt{2}}{11}$

   [C] $\dfrac{12+4\sqrt{2}}{7}$ [D] $\dfrac{12+4\sqrt{2}}{11}$

2. 010902b, P.I. A2.N.5

   The expression $\dfrac{5}{3+\sqrt{2}}$ is equivalent to

   [A] $\dfrac{5\sqrt{2}-15}{5}$ [B] $15-5\sqrt{2}$

   [C] $\dfrac{\sqrt{2}-15}{3}$ [D] $\dfrac{15-5\sqrt{2}}{7}$

3. 080606b, P.I. A2.N.5

   The expression $\dfrac{12}{3+\sqrt{3}}$ is equivalent to

   [A] $4-2\sqrt{3}$ [B] $2+\sqrt{3}$

   [C] $12-\sqrt{3}$ [D] $6-2\sqrt{3}$

4. 080716b, P.I. A2.N.5

   The expression $\dfrac{2}{1-\sqrt{3}}$ is equivalent to

   [A] $1+\sqrt{3}$ [B] $-1-\sqrt{3}$

   [C] $1-\sqrt{3}$ [D] $-1+\sqrt{3}$

5. 010405b, P.I. A2.N.5

   The expression $\dfrac{7}{2-\sqrt{3}}$ is equivalent to

   [A] $\dfrac{14+\sqrt{3}}{7}$ [B] $\dfrac{2+\sqrt{3}}{7}$

   [C] $14-7\sqrt{3}$ [D] $14+7\sqrt{3}$

6. 010516b, P.I. A2.N.5

   The expression $\dfrac{7}{3-\sqrt{2}}$ is equivalent to

   [A] $\dfrac{21+\sqrt{2}}{7}$ [B] $3+\sqrt{2}$

   [C] $\dfrac{3+\sqrt{2}}{7}$ [D] $3-\sqrt{2}$

7. 080506b, P.I. A2.N.5

   The expression $\dfrac{1}{5-\sqrt{13}}$ is equivalent to

   [A] $\dfrac{5+\sqrt{13}}{-8}$ [B] $\dfrac{5+\sqrt{13}}{8}$

   [C] $\dfrac{5+\sqrt{13}}{-12}$ [D] $\dfrac{5+\sqrt{13}}{12}$

8. 010708b, P.I. A2.N.5

   The expression $\dfrac{4}{5-\sqrt{13}}$ is equivalent to

   [A] $\dfrac{5-\sqrt{13}}{3}$ [B] $\dfrac{5+\sqrt{13}}{3}$

   [C] $\dfrac{2(5-\sqrt{13})}{19}$ [D] $\dfrac{2(5+\sqrt{13})}{19}$

9. 080420b, P.I. A2.N.5

The expression $\dfrac{11}{\sqrt{3}-5}$ is equivalent to

[A] $\dfrac{\sqrt{3}+5}{2}$ [B] $\dfrac{-\sqrt{3}+5}{2}$

[C] $\dfrac{-\sqrt{3}-5}{2}$ [D] $\dfrac{\sqrt{3}-5}{2}$

10. 010613b, P.I. A2.N.5

The expression $\dfrac{5}{\sqrt{5}-1}$ is equivalent to

[A] $\dfrac{5}{4}$ [B] $\dfrac{5\sqrt{5}-5}{6}$

[C] $\dfrac{5\sqrt{5}-5}{4}$ [D] $\dfrac{5\sqrt{5}+5}{4}$

11. 060709b, P.I. A2.N.5

The fraction $\dfrac{3}{\sqrt{6}-1}$ is equivalent to

[A] $3\sqrt{6}+3$ [B] $3\sqrt{6}-3$

[C] $\dfrac{3\sqrt{6}-3}{5}$ [D] $\dfrac{3\sqrt{6}+3}{5}$

12. 080307b, P.I. A2.N.5

Which expression is equal to $\dfrac{2+\sqrt{3}}{2-\sqrt{3}}$?

[A] $7+4\sqrt{3}$ [B] $\dfrac{7+4\sqrt{3}}{7}$

[C] $1-4\sqrt{3}$ [D] $\dfrac{1-4\sqrt{3}}{7}$

13. 060905b, P.I. A2.N.5

The expression $\dfrac{5+\sqrt{7}}{5-\sqrt{7}}$ is equivalent to

[A] $\dfrac{16+5\sqrt{7}}{9}$ [B] $\dfrac{16-5\sqrt{7}}{9}$

[C] $\dfrac{16-5\sqrt{7}}{16}$ [D] $\dfrac{16+5\sqrt{7}}{16}$

14. fall9906b, P.I. A2.N.5

Which expression is equivalent to $\dfrac{\sqrt{7}+\sqrt{2}}{\sqrt{7}-\sqrt{2}}$?

[A] $\dfrac{11+\sqrt{2}}{14}$ [B] -1

[C] $\dfrac{9}{5}$ [D] $\dfrac{9+2\sqrt{14}}{5}$

15. 080210b, P.I. A2.N.5

Which expression represents the sum of $\dfrac{1}{\sqrt{3}}+\dfrac{1}{\sqrt{2}}$?

[A] $\dfrac{2\sqrt{3}+3\sqrt{2}}{6}$ [B] $\dfrac{2}{\sqrt{5}}$

[C] $\dfrac{\sqrt{3}+\sqrt{2}}{3}$ [D] $\dfrac{\sqrt{3}+\sqrt{2}}{2}$

*A2.N.5: Rationalize a denominator containing a
radical expression*

[1]   A_____

[2]   D_____

[3]   D_____

[4]   B_____

[5]   D_____

[6]   B_____

[7]   D_____

[8]   B_____

[9]   C_____

[10] D_____

[11] D_____

[12] A_____

[13] A_____

[14] D_____

[15] A_____