

Exercises [A-1]

Simplify:

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|------------------|---------------------------|---|
| 1. $\sqrt{12}$ | 11. $\sqrt{16a}$ | 21. $\frac{2}{5}\sqrt{45}$ |
| 2. $\sqrt{32}$ | 12. $\sqrt{98}$ | 22. $\sqrt{8a^2}$ |
| 3. $\sqrt{24}$ | 13. $15\sqrt{18}$ | 23. $\sqrt{90m^5}$ |
| 4. $\sqrt{36}$ | 14. $12\sqrt{32}$ | 24. $\sqrt{120a^2b^3}$ |
| 5. $\sqrt{48}$ | 15. $2\sqrt{200}$ | 25. $\sqrt{\frac{16}{25}}$ |
| 6. $\sqrt{54}$ | 16. $6\sqrt{50}$ | 26. $\sqrt{\frac{7}{9}}$ |
| 7. $\sqrt{68}$ | 17. $\sqrt{\frac{44}{2}}$ | 27. $\frac{1}{2} \cdot \sqrt{\frac{5}{16}}$ |
| 8. $\sqrt{76}$ | 18. $\sqrt{196}$ | 28. $5 \cdot \sqrt{\frac{24}{25}}$ |
| 9. $\sqrt{84}$ | 19. $\sqrt{50m^3n}$ | 29. $14 \cdot \sqrt{\frac{8}{49}}$ |
| 10. $\sqrt{250}$ | 20. $\sqrt{450}$ | |

Exercises [A-2]

Simplify:

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|-------------------|-----------------------------|---------------------------|
| 1. $\sqrt{8}$ | 10. $\sqrt{75x}$ | 19. $\sqrt{60a^4b}$ |
| 2. $\sqrt{20}$ | 11. $\sqrt{18b^2}$ | 20. $\sqrt{128}$ |
| 3. $\sqrt{28}$ | 12. $5\sqrt{8}$ | 21. $\sqrt{27x^3}$ |
| 4. $\sqrt{44}$ | 13. $6\sqrt{25}$ | 22. $\sqrt{88ab^3}$ |
| 5. $\sqrt{52}$ | 14. $8\sqrt{27}$ | 23. $\sqrt{289a^2}$ |
| 6. $\sqrt{64r^4}$ | 15. $4\sqrt{4}$ | 24. $\sqrt{x^3}$ |
| 7. $\sqrt{72}$ | 16. $10\sqrt{99}$ | 25. $\sqrt{\frac{3}{4}}$ |
| 8. $\sqrt{80}$ | 17. $\frac{1}{8}\sqrt{300}$ | 26. $\sqrt{\frac{4}{81}}$ |
| 9. $\sqrt{125}$ | 18. $\sqrt{40c^3}$ | 27. $\sqrt{\frac{49}{9}}$ |

Exercises [B]

Simplify:

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|----------------------------|---------------------------|----------------------------------|
| 1. $\sqrt{724}$ | 5. $\sqrt{\frac{40}{4}}$ | 9. $\sqrt{\frac{200}{16}}$ |
| 2. $\sqrt{529}$ | 6. $\sqrt{4y^3}$ | 10. $\sqrt{\frac{98}{36}}$ |
| 3. $\sqrt{816}$ | 7. $\sqrt{\frac{20}{9}}$ | 11. $8\sqrt{\frac{5}{64}}$ |
| 4. $\sqrt{162}$ | 8. $\sqrt{\frac{32}{49}}$ | 12. $\sqrt{75b^4}$ |
| 13. $\sqrt{2x^2 + 4x + 2}$ | | 15. $\sqrt{5a^2 - 30ab + 45b^2}$ |
| 14. $\sqrt{3(a-1)^2}$ | | 16. $\sqrt{(p-q)(p+q)^2}$ |

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|------------------------|-------------------------|----------------------------------|----------------------------------|
| <u>1.</u> $2\sqrt{3}$ | <u>9.</u> $2\sqrt{21}$ | <u>17.</u> $\sqrt{22}$ | <u>24.</u> $2ab\sqrt{30b}$ |
| <u>2.</u> $4\sqrt{2}$ | <u>10.</u> $5\sqrt{10}$ | <u>18.</u> 14 | <u>25.</u> $\frac{4}{5}$ |
| <u>3.</u> $2\sqrt{6}$ | <u>11.</u> $4\sqrt{a}$ | <u>19.</u> $5m\sqrt{2mn}$ | <u>26.</u> $\frac{1}{3}\sqrt{7}$ |
| <u>4.</u> 6 | <u>12.</u> $7\sqrt{2}$ | <u>20.</u> $15\sqrt{2}$ | <u>27.</u> $\frac{1}{8}\sqrt{5}$ |
| <u>5.</u> $4\sqrt{3}$ | <u>13.</u> $45\sqrt{2}$ | <u>21.</u> $\frac{6}{5}\sqrt{5}$ | <u>28.</u> $2\sqrt{6}$ |
| <u>6.</u> $3\sqrt{6}$ | <u>14.</u> $48\sqrt{2}$ | <u>22.</u> $2a\sqrt{2}$ | <u>29.</u> $4\sqrt{2}$ |
| <u>7.</u> $2\sqrt{17}$ | <u>15.</u> $20\sqrt{2}$ | <u>23.</u> $3m^2\sqrt{10m}$ | |
| <u>8.</u> $2\sqrt{19}$ | <u>16.</u> $30\sqrt{2}$ | | |

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|------------------------|-------------------------|----------------------------------|----------------------------------|
| <u>1.</u> $2\sqrt{2}$ | <u>8.</u> $4\sqrt{5}$ | <u>15.</u> 8 | <u>22.</u> $2b\sqrt{22ab}$ |
| <u>2.</u> $2\sqrt{5}$ | <u>9.</u> $5\sqrt{5}$ | <u>16.</u> $30\sqrt{11}$ | <u>23.</u> 17a |
| <u>3.</u> $2\sqrt{7}$ | <u>10.</u> $5\sqrt{3x}$ | <u>17.</u> $\frac{5}{3}\sqrt{3}$ | <u>24.</u> $x\sqrt{x}$ |
| <u>4.</u> $2\sqrt{11}$ | <u>11.</u> $3b\sqrt{2}$ | <u>18.</u> $2c\sqrt{10c}$ | <u>25.</u> $\frac{1}{2}\sqrt{3}$ |
| <u>5.</u> $2\sqrt{13}$ | <u>12.</u> $10\sqrt{2}$ | <u>19.</u> $2a^2\sqrt{15b}$ | <u>26.</u> $\frac{2}{9}$ |
| <u>6.</u> $8r^2$ | <u>13.</u> 30 | <u>20.</u> $8\sqrt{2}$ | <u>27.</u> $\frac{7}{3}$ |
| <u>7.</u> $6\sqrt{2}$ | <u>14.</u> $24\sqrt{3}$ | <u>21.</u> $3x\sqrt{3x}$ | |

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|-------------------------|---------------------------------|----------------------------------|----------------------------------|
| <u>1.</u> $2\sqrt{181}$ | <u>5.</u> $\sqrt{10}$ | <u>9.</u> $\frac{5}{2}\sqrt{2}$ | <u>13.</u> $(x + 1)\sqrt{2}$ |
| <u>2.</u> 23 | <u>6.</u> $2y\sqrt{y}$ | <u>10.</u> $\frac{7}{6}\sqrt{2}$ | <u>14.</u> $(a - 1)\sqrt{3}$ |
| <u>3.</u> $4\sqrt{51}$ | <u>7.</u> $\frac{2}{3}\sqrt{5}$ | <u>11.</u> $\sqrt{5}$ | <u>15.</u> $(a - 3b)\sqrt{5}$ |
| <u>4.</u> $9\sqrt{2}$ | <u>8.</u> $\frac{4}{7}\sqrt{2}$ | <u>12.</u> $5b^2\sqrt{3}$ | <u>16.</u> $(p + q)\sqrt{p - q}$ |