

Monomials and Polynomials 4.2

Simplify the following expressions.

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|------------------------|-----------------------|------------------------|------------------------|------------------------|
| 1) $\sqrt{100m^4}$ | 2) $\sqrt{196c^2}$ | 3) $\sqrt[3]{216n^3}$ | 4) $\sqrt[4]{256p^4}$ | 5) $\sqrt[3]{t^{10}}$ |
| 6) $\sqrt[3]{w^2}$ | 7) $\sqrt[4]{48}$ | 8) $\sqrt[4]{f^{10}}$ | 9) $\sqrt[4]{g^3}$ | 10) $\sqrt[4]{v^7}$ |
| 11) $\sqrt[4]{p^{13}}$ | 12) $\sqrt[4]{z}$ | 13) $\sqrt{147g^4}$ | 14) $\sqrt[3]{128d^7}$ | 15) $\sqrt[3]{250m^6}$ |
| 16) $\sqrt[4]{80q}$ | 17) $\sqrt[4]{48g^9}$ | 18) $\sqrt[4]{320t^4}$ | 19) $\sqrt[4]{625y^5}$ | 20) $\sqrt{121q^{17}}$ |

Express the following expressions in radical form.

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|--------------------|----------------|--------------------|---------------------|
| 21) $(2r^5)^{6/5}$ | 22) $6^{-4/3}$ | 23) $(y^3)^{-1/4}$ | 24) $(5d^4)^{-3/5}$ |
|--------------------|----------------|--------------------|---------------------|

Express the following in rational exponent form.

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|-------------------------|-------------------------|---------------------|------------------------------|---------------------------------|
| 25) $(\sqrt[3]{t^2})^7$ | 26) $(\sqrt[4]{b^3})^9$ | 27) $(\sqrt[5]{m})$ | 28) $\frac{1}{(\sqrt{5})^9}$ | 29) $\frac{1}{(\sqrt[4]{g^3})}$ |
|-------------------------|-------------------------|---------------------|------------------------------|---------------------------------|

Simplify the following expressions.

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|-------------------|-------------------|----------------|--------------------|----------------------|
| 30) $(w^6)^{4/3}$ | 31) $(p^8)^{1/4}$ | 32) $8^{-4/3}$ | 33) $(m^4)^{-3/2}$ | 34) $(27q^9)^{-2/3}$ |
|-------------------|-------------------|----------------|--------------------|----------------------|

Factor the following polynomials.

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|----------------------------|-----------------------------|------------------------|
| 35) $18k^5 + 37k^4 + 9k^3$ | 36) $42m^7 - 21m^5 + 56m^2$ | 37) $p^2 + 2p - 35$ |
| 38) $t^2 + 4t - 60$ | 39) $7b^2 - 3b - 4$ | 40) $2c^2 - 2c - 24$ |
| 41) $2f^2 + 5f - 3$ | 42) $8m^2 - 28m + 20$ | 43) $x^3 - 7x^2 + 10x$ |
| 44) $3x^5 + 27x^4 + 54x^3$ | | |