

PRACTICING SYNTHETIC DIVISION

Use synthetic division to solve the following.

① $(6x^3 + 23x^2 + 10x + 1) \div (3x + 1)$

② $(x^3 + 4x^2 - 5x + 3) \div (x + 2)$

③ $(14x^2 + 69x + 27) \div (7x + 3)$

④ $(12x^2 - 39x + 30) \div (4x - 5)$

⑤ $(7x^2 + 25x + 12) \div (x - 3)$

⑥ $(5x^3 + 4x^2 - 45x - 36) \div (x - 9)$

⑦ $(4x^2 + 3x - 8) \div (x + 2)$

⑧ $(x^2 - x - 21) \div (x + 4)$

PRACTICING SYNTHETIC DIVISION

Answers

① $(6x^3 + 23x^2 + 10x + 1) \div (3x + 1)$

$$\underline{2x^2 + 7x + 1}$$

③ $(14x^2 + 69x + 27) \div (7x + 3)$

$$\underline{2x + 9}$$

⑤ $(7x^2 + 25x + 12) \div (x - 3)$

$$\underline{7x + 46 + \frac{150}{x - 3}}$$

⑦ $(4x^2 + 3x - 8) \div (x + 2)$

$$\underline{4x - 5 + \frac{2}{x + 2}}$$

② $(x^3 + 4x^2 - 5x + 3) \div (x + 2)$

$$\underline{x^2 + 2x - 9 + \frac{21}{x + 2}}$$

④ $(12x^2 - 39x + 30) \div (4x - 5)$

$$\underline{3x - 6}$$

⑥ $(5x^3 + 4x^2 - 45x - 36) \div (x - 9)$

$$\underline{5x^2 + 49x + 396 + \frac{3528}{x - 9}}$$

⑧ $(x^2 - x - 21) \div (x + 4)$

$$\underline{x - 5 + \frac{-1}{x + 4}}$$