

Review Homework 30.1

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Simplify. Your answer should contain only positive exponents.

1) $3x^2 \cdot 4x^3 \cdot x^4$

2) $2x \cdot 2x^{-2}$

3) $3x^{-3}y^3 \cdot -3x^{-2}y^{-3} \cdot 4x^4y^2$

4) $(3p)^3$

5) $(k^{-3})^4$

6) $(x^3y^3 \cdot x)^2$

7) $\frac{3u^2v^4}{u^4v^4}$

8) $\frac{2y}{x^0y^{-4}}$

Divide.

9) $(40x^3 + 5x^2 + 2x) \div 8x^2$

10) $(18r^3 + 18r^2 + r) \div 6r^2$

Factor the common factor out of each expression.

11) $15x^4y^2 + 18xy^5 - 12xy^6$

12) $72b^3 - 72ba + 27b$

Factor each completely.

13) $n^2 - 3n - 28$

14) $n^2 - 2n - 3$

$15) 9n^2 - 1$

$16) 9a^2 - 4$

$17) 2a^2 - a - 15$

$18) 2b^2 - 7b + 6$

Simplify.

$19) \sqrt{180}$

$20) \sqrt{36}$

$21) \sqrt{48x^4y^2}$

$22) \sqrt{36x^3y^2}$

- 23) Totsakan and Ndiba are selling fruit for a school fundraiser. Customers can buy small boxes of grapefruit and large boxes of grapefruit. Totsakan sold 2 small boxes of grapefruit and 3 large boxes of grapefruit for a total of \$33. Ndiba sold 8 small boxes of grapefruit and 3 large boxes of grapefruit for a total of \$69. What is the cost each of one small box of grapefruit and one large box of grapefruit?

Simplify each expression.

$24) (5n^2 - 2 - 4n^3) - (n + 5 + 6n^2)$

$25) (x + 2x^2 + 3) - (2 + 5x^2 - 4x)$

Answers to Review Homework 30.1

1) $12x^9$

2) $\frac{4}{x}$

3) $-\frac{36y^2}{x}$

4) $27p^3$

5) $\frac{1}{k^{12}}$

6) x^8y^6

7) $\frac{3}{u^2}$

8) $2y^5$

9) $5x + \frac{5}{8} + \frac{1}{4x}$

10) $3r + 3 + \frac{1}{6r}$

11) $3xy^2(5x^3 + 6y^3 - 4y^4)$

12) $9b(8b^2 - 8a + 3)$

13) $(n+4)(n-7)$

14) $(n+1)(n-3)$

15) $(3n+1)(3n-1)$

16) $(3a+2)(3a-2)$

17) $(2a+5)(a-3)$

18) $(2b-3)(b-2)$

19) $6\sqrt{5}$

20) 6

21) $4x^2y\sqrt{3}$

22) $6xy\sqrt{x}$

23) small box of grapefruit: \$6, large box of grapefruit: \$7

24) $-4n^3 - n^2 - n - 7$

25) $-3x^2 + 5x + 1$