

1. Jeremy emptied his piggy bank which was full of only quarters and dimes. He realized that he had 16 coins which totaled \$2.65. How many dimes did he have?

$$q = \text{quarters } \boxed{7} \quad d = \text{dimes } \boxed{9}$$

$$- .25(q + d = 16)$$

$$.25q + .10d = 2.65$$

$$\begin{array}{r} + \quad - \quad \cancel{.25q} - .25d = -4 \\ \quad \quad \cancel{.25q} + .10d = 2.65 \\ \hline \quad \quad \quad - .15d = -1.35 \\ \quad \quad \quad \underline{- .15} \quad \quad \underline{- .15} \\ \quad \quad \quad \quad \quad \quad d = 9 \end{array}$$

2. The function $f(x) = 37x + 20$ models the total cost for Rachel to be a member at a gym for x months. What can be interpreted from the y-intercept of the function?

\$20
Sign-up fee

3. Evaluate $f(-8)$ when $f(x) = x^2 - 6x + 12$

$$(-8)^2 - 6(-8) + 12$$

$$64 + 48 + 12$$

$$f(-8) = 124$$

$$(-8, 124)$$



Power to Power Quizizz

Dividing Monomials

To divide monomials, use the
QUOTIENT RULE

$$\frac{x^a}{x^b} = x^{a-b}$$

KAMPLES

Directions: Find each quotient.

1. $\frac{x^5}{x^3}$

x^2

2. $\frac{k^{12}}{k^2}$

k^{10}

3. $\frac{m^3}{m^3}$

1
 $m^0 = 1$

4. $\frac{a^6 b^4}{a^2 b^3}$

$a^4 b$

5. $\frac{p^7 q^{16}}{p^4 q^{12}}$

$p^3 q^4$

6. $\frac{x^{20} / z^2}{x^5 / z}$

$x^{15} z$

➤ Examples with Coefficients:

- DIVIDE the coefficients.
- SIMPLIFY the variables with the quotient rule.

$$7. \frac{6x^4}{2x^3} = 3x$$

$$8. \frac{14r^2s^2}{7rs} = 2rs$$

$$9. \frac{-36\cancel{d^5}}{4\cancel{d^3}} = -9d^2$$

$$10. \frac{-15x^6y^5z}{-3x^5y^3}$$

$$5xy^2z$$

$$11. \frac{4n^5}{8n} = \frac{1}{2}n^4$$

$$12. \frac{36m^9n^5}{54m^3n^2}$$

$$\frac{2m^6n^3}{3}$$

Directions: Simplify each expression completely.

13. $\frac{(3x^5)^2}{27x^3}$

$$(3x^5)^2$$

$$9x^{10}$$

$$\frac{9x^{10}}{27x^3}$$

x^7
3

14. $\frac{(2a^2b^4)^3}{4a^3b^7}$

$$(2a^2b^4)^3$$

$$8a^6b^{12}$$

$$\frac{8a^6b^{12}}{4a^3b^7}$$

$2a^3b^5$

$$15. \frac{12w^9v^4}{(4wv)^2}$$

$$\frac{(4wv)^2}{16w^2v^2}$$

$$\frac{12w^9v^4}{16w^2v^2}$$

$$\frac{3w^7v^2}{4}$$

$$\boxed{\frac{3v^2w^7}{4}}$$

$$16. \frac{(2cd^4)^4}{(2c^2d^3)^2}$$

$$\frac{(2cd^4)^4}{(2c^2d^3)^2} = \frac{16c^4d^{16}}{4c^4d^6}$$

$$\boxed{4d^{10}}$$

19. $\left(\frac{4ab^2}{5ab}\right)^2$

$$\frac{(4ab^2)^2}{(5ab)^2} = \frac{16a^2b^4}{25a^2b^2}$$

$$\boxed{\frac{16b^2}{25}}$$

20. $\frac{(9x^5y^6)(4xy)}{6x^2y^4}$

$$(9x^5y^6)(4xy)$$

$$\frac{36x^6y^7}{6x^2y^4}$$

$$\boxed{6x^4y^3}$$

$$23. \frac{(2x^3)^2(3y^4)^3}{12x^4y^5}$$

$$(2x^3)^2 (3y^4)^3$$
$$(4x^6)(27y^{12})$$

$$\frac{108x^6y^{12}}{12x^4y^5}$$

$$\boxed{9x^2y^7}$$

$$24. \frac{(3m^2)^2(-4n^5)^2}{8m^3n^4}$$

$$(3m^2)^2 (-4n^5)^2$$
$$(9m^4)(16n^{10})$$

$$\frac{144m^4n^{10}}{8m^3n^4}$$

$$\boxed{18mn^6}$$

$$26. \frac{(8r^5s^2)(3r^3s^4)}{12rs^4} + 9r^7s^2$$

$$(8r^5s^2)(3r^3s^4)$$

$$\frac{24r^8s^6}{12rs^4}$$

$$2r^7s^2 + 9r^7s^2$$

$$\boxed{11r^7s^2}$$