To pass this test you can have at most one error.

1. What is the degree of the polynomial $56x^2y^2 + 78xy + 77$?

2. Simplify by combining exponents in $\left(\dfrac{3x^2y^7xy}{2xy^6}\right)^4$. Make all exponents positive in your final answer.

3. Simplify by combining exponents in $\left(\dfrac{4}{5} \cdot \dfrac{3x^{-4}y^{-3}}{x^{-1}y^{-5}}\right)^2$. Make all exponents positive in your final answer.

4. Simplify $(4y - 1)(5y^2 + 2)$.

5. Expand $(1 + y)^3$.

6. Expand $\left(\dfrac{1}{2}x - \dfrac{1}{6}y\right)^2$.

7. Express the volume of a box with sides of length $x - 1$, $4x + 12$ and x as a polynomial.

8. Is it true that $\dfrac{a}{b+c} = \dfrac{a}{b} + \dfrac{a}{c}$?

9. Divide $x^2 - 9x - 5$ by $x - 3$.

10. Divide $\dfrac{y^4 - 9y^2 - 5}{y - 2}$.

11. Write $3y^2 - 3y + \dfrac{3}{2} + \dfrac{5/2}{2y + 1}$ with a common denominator.

Solutions

1. 4

2. $\dfrac{81x^8y^8}{16}$

3. $\dfrac{144y^4}{25x^6}$

4. $-2 + 8y - 5y^2 + 20y^3$

5. $1 + 3y + 3y^2 + y^3$

6. $\dfrac{1}{4}x^2 - \dfrac{1}{6}xy + \dfrac{1}{36}y^2$

7. $-12x + 8x^2 + 4x^3$

8. No

9. $x - 6 - \dfrac{23}{x - 3}$

10. $y^3 + 2y^2 - 5y - 10 - \dfrac{25}{y - 2}$

11. $\dfrac{6y^3 - 3y^2 + 4}{2y + 1}$