

# Workshop (Identities 6 and 7)

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Eighth grade



Name: \_\_\_\_\_

| PROBLEM                                           | ANSWER                                                                           |
|---------------------------------------------------|----------------------------------------------------------------------------------|
| $\left(\frac{4}{3}x + \frac{12}{5}y\right)^3 =$   | $1000x^3 - 45x^2y + \frac{27}{40}xy^2 - \frac{27}{8000}$                         |
| $\left(\frac{14}{3}x - \frac{21}{2}y\right)^3 =$  | $512x^6 - 3x^4y^2 + \frac{3}{512}x^2y^4 - \frac{1}{262144}$                      |
| $(3x^2 - 5y^6) =$                                 | $\frac{64}{9}x^3 + \frac{64}{5}x^2y + \frac{576}{25}xy^2 + \frac{1728}{125}y^3$  |
| $\left(\frac{21}{5}x + \frac{10}{42}y\right)^3 =$ | $729x^{12} + \frac{1}{531441x^6} + 3x^6 + \frac{1}{243}$                         |
| $\left(10x - \frac{3}{20}y\right)^3 =$            | $\frac{2744}{27}x^3 - 686x^2 + \frac{3087}{2}x - \frac{9261}{8}$                 |
| $\left(4x + \frac{9}{16}y\right)^3 =$             | $9x^6 - 125y^{12} - 135x^4y^6 + 225x^2y^{12}$                                    |
| $\left(8x^2 - \frac{1}{64}y^2\right)^3 =$         | $\frac{125}{9261}y^3 + \frac{63}{5}x^2y + \frac{5}{7}xy^2 + \frac{9261}{125}x^3$ |
| $\left(9x^4 + \frac{1}{81x^2}\right)^3 =$         | $64x^3 + \frac{729}{4096}y^3 + 27x^2y + \frac{243}{64}xy^2$                      |