

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

## Algebraic Identities

Sheet 1

1) If  $m + \frac{1}{m} = 2$ , find the value of  $m - \frac{1}{m}$ .

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2) What is the value of  $a^3 - b^3$ , if  $a - b = 3$  and  $ab = 4$ ?

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3) Determine the value of  $r^2 + \frac{1}{r^2}$ , if  $r + \frac{1}{r} = 6$ .

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4) Find the value of  $s - t$ , if  $s + t = 5$  and  $st = 4$ ?

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5) If  $p + q = 11$  and  $p - q = 5$ , find the value of  $pq$ .

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## Answer key

Sheet 1

### Algebraic Identities

- 1) If  $m + \frac{1}{m} = 2$ , find the value of  $m - \frac{1}{m}$ .

$$m - \frac{1}{m} = 0$$

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- 2) What is the value of  $a^3 - b^3$ , if  $a - b = 3$  and  $ab = 4$ ?

$$a^3 - b^3 = 63$$

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- 3) Determine the value of  $r^2 + \frac{1}{r^2}$ , if  $r + \frac{1}{r} = 6$ .

$$r^2 + \frac{1}{r^2} = 34$$

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- 4) Find the value of  $s - t$ , if  $s + t = 5$  and  $st = 4$ ?

$$s - t = \pm 3$$

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- 5) If  $p + q = 11$  and  $p - q = 5$ , find the value of  $pq$ .

$$pq = 24$$

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