

## Solving quadratic equations

$$100 - 121k^2 = 0$$

What are the solutions to the equation above?

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(A)  $k = \frac{100}{121}$

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(B)  $k = -\frac{100}{121}$  and  $k = \frac{100}{121}$

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(C)  $k = \frac{10}{11}$

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(D)  $k = -\frac{10}{11}$  and  $k = \frac{10}{11}$

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$$(2x - 3)(x + 4) = 0$$

Let  $x = a$  and  $x = b$  be the solutions to the equation above. What is the value of  $-a - b$ ?

$$0 = (2y - 1)(8 - y)$$

Let  $y = u$  and  $y = d$  be the solutions to the equation above. What is the value of  $u \cdot d$ ?

## Solving quadratic equations

$$(2x + 5)(-mx + 9) = 0$$

In the equation above,  $m$  is a constant. If the equation has the solutions  $x = -\frac{5}{2}$  and  $x = \frac{3}{2}$ , what is the value of  $m$ ?

$$\left(x + \frac{13}{2}\right)\left(x - \frac{13}{2}\right) = 0$$

How many distinct real solutions does the equation above have?

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(A) 0

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(B) 1

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(C) 2

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(D) 3

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