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Solving quadratic equations

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1.Which of the following could be the factored form of the polynomial shown below?

$x^2+3x-18$

A. $(x-3)(x+6)$
B. $(x+3)(x-6)$
C. $(x-3)(x-6)$
D. $(x+3)(x+6)$

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2.Which of the following could be the factored form of the polynomial shown below?

$x2+16x+60$

A. $(x+6)(x+10)$
B. $(x+6)(x-10)$
C. $(x-6)(x+10)$
D. $(x-6)(x-10)$

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3.Which of the following could be the factored form of the polynomial shown below?

$x^2+12x+27$

A. $(x-3)(x+9)$
B. $(x+3)(x-9)$
C. $(x-3)(x-9)$
D. $(x+3)(x+9)$

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4.100−121k2=0
What are the solutions to the equation above?

A. $k=\frac{100}{121}$

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

C. $k=\frac{10}{11}$

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

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5.$(2x-3)(x+4)=0$

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

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6.$(2x+5)(-mx+9)=0$

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?

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7. $\frac{2}{3}x2 - \frac{1}{2}x - \frac{3}{4} = 0$

Let x=w and x=z be the solutions to the equation above. What is the value of w+z?

A. $-\frac{3}{2}$

B. $-\frac{3}{4}$

C. 0

D. $\frac{3}{4}$

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8.2x2 $-\frac{11}{2}$ x $-\frac{3}{2}$ = 0

What are the solutions to the equation above?

A. x= $-\frac{1}{4}$ and x = 2

B. x= $-\frac{1}{4}$ and x = 3

C. x= 2 and x = 3

D. x= $-\frac{1}{4}$, x= 2, and x = 3

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9.$2x^2+5x-k=0$

In the equation above, k is a constant. For what value of k does the equation have exactly one distinct real solution?

A. $-\frac{25}{8}$

B. $-\frac{5}{4}$

C. $\frac{5}{4}$

D. $\frac{25}{8}$

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10. $-\frac{1}{2}(t-3)+t2=0$

How many distinct real solutions does the equation above have?

A. 0
B. 1
C. 2
D. 4

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11.ax2+5x+2=0
In the equation above, a is a constant. If the equation has the solutions x=−2 and x=$-\frac{1}{2}$, what is the value of a?

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12.Which of the following quadratic equations has exactly one distinct real solution?

A. $\frac{9}{16}x2-3x-4=0$

B. $\frac{9}{16}x2-3x+4=0$

C. $\frac{16}{25}x2-25=0$

D. $\frac{16}{25}x2+25=0$

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13.(1−a)+3(1−a)2=0
What are the solutions to the equation above?

A. a=1

B. a=$\frac{4}{3}$

C. a=1 and a=$\frac{4}{3}$

D. a=0 and a=− $\frac{1}{3}$

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14. $k(k-\frac{1}{2})=-\frac{1}{16}$

What are the solutions to the equation above?

A. $k=\frac{1}{8}$

B. $k=\frac{1}{4}$

C. $k=-\frac{1}{8}$ and $k=\frac{1}{8}$

D. $k=-\frac{1}{4}$ and $k=\frac{1}{4}$

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15.$(x-a)2-3=0$

In the equation above, a is a constant. If the equation has the solutions $x=4\pm\sqrt{3}$, what is the value of a?

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