Number & Algebra Assessment

ACMNA241 – Solving Quadratic Equations

Name:

Score:

Teacher:

Assessment   Navigator   Student   30 min

Q.1. The solutions to $x^2 + 7x + 12 = 0$ are:

a) $x = -3$ or -4 b) $x = 3$ or 4 c) $x = -7$ or -12 d) $x = -12$ e) $x = 12$

Q.2. The solutions to $x^2 + 6x + 5 = 0$ are:

a) $x = -2$ or -3 b) $x = 2$ or 3 c) $x = -1$ or -5 d) $x = 1$ or 5 e) $x = 5$

Q.3. $x^2 + ax - 18 = 0$ has solutions $x = 3$ or -6, the value for *a* would therefore be:

a) 3   b) -3   c) 9   d) -9   e) 18

Q.4. $x^2 + ax + 12 = 0$ has solutions $x = b$ or $x = -12$, the values for *a* and *b* would therefore be:

a) $a = 13$ b) $a = 12$ c) $a = -13$ d) $a = 11$ e) $a = -13$
     $b = -1$ $b = 0$ $b = -1$ $b = 1$ $b = 1$

Q.5. The solutions to $x^2 + 12x + 32 = 20$ are:

a) $x = 2\sqrt{6} + 3$ or $2\sqrt{6} - 3$ b) $x = 2(\sqrt{6} + 3)$ or $2(\sqrt{6} - 3)$ c) $x = 2(\sqrt{6} + 3)$ or $-2(\sqrt{6} - 3)$ d) $x = -2\sqrt{6} - 6$ or $2\sqrt{6} - 6$ e) No solutions

Q.6. Which one of the following is equivalent to: $x^2 + 8x + 10 = 24$

a) $(x+4)^2 = 24$ b) $(x+4)^2 = 30$ c) $(x+4)^2 = 18$

d) $(x+8)^2 = 30$ e) $(x+8)^2 = 78$

Q.7. Which one of the following is equivalent to: $x^2 + 7x + 5 = 2$

a) $(2x+14)^2 = 84$ b) $(2x+14)^2 = 78$ c) $(2x+7)^2 = 37$

d) $\left(x + \frac{7}{2}\right)^2 = -9\frac{1}{4}$ e) $\left(x + \frac{7}{2}\right)^2 = -3$

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Q.8.   Which one of the following has **no** solutions?

a) $x^2 + 6x + 4 = 0$ b) $x^2 + 10x - 4 = 0$ c) $x^2 - 8x - 4 = 0$

d) $x^2 + 6x + 9 = 0$ e) $x^2 + 8x + 20 = 0$

Q.9.   Which one of the following has **exactly one** solution?

a) $x^2 + 12x + 144 = 0$ b) $x^2 + 10x - 25 = 0$ c) $x^2 - 8x + 16 = 0$

d) $x^2 + 6x + 8 = 1$ e) $(x+4)(x-4) = 0$

Q.10.   Which one of the following is equivalent to: $2x^2 + 12x + 15 = 2$

a) $2(x+3)^2 = 5$ b) $(2x+6)^2 = 9$ c) $(2x+3)^2 = 9$

d) $2(x+3)^2 = -14$ e) $(2x+3)(x+3) = 1$

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