Expression and Equations Level 3-Part 2

1. If $a^2 - b^2 = 55$ and $a + b = -5$: what is the value of a-b?
2. If $a^2 - b^2 = -21$ and $a + b = -7$: what is the value of a-b?
3. If $a^2 - b^2 = -7$ and $a + b = 7$: what is the value of a-b?
4. $-7x^2 + 6x + 8 = 0$. What are the values of x?
5. $-9x^2 + 7x + 2 = 0$. What are the values of x?
6. $2x^2 + 7x + 5 = 0$. What are the values of x?
7. $-2x^2 + 4x + 2 = 0$. What are the values of x?

8. If $\frac{x^{a^2}}{x^{b^2}} = x^{72}$ and $a + b = -12$: what is the value of $a - b$?
9. If $\frac{x^{a^2}}{x^{b^2}} = x^{-27}$ and $a + b = 9$: what is the value of $a - b$?
10. If $\frac{x^{a^2}}{x^{b^2}} = x^{-45}$ and $a + b = 9$: what is the value of $a - b$?
11. What is the value of $\frac{(4^3)^h}{4^e}$ when $3h - e = 9$?
12. What is the value of $\frac{(2^3)^p}{2^g}$ when $3p - g = 6$?
13. What is the value of $\frac{(3^2)^b}{3^c}$ when $2b - c = 9$?
14. If $a = 3\sqrt{7}$ and $2a = \sqrt{n}$ what is the value of n?
15. If $c = 2\sqrt{2}$ and $3c = \sqrt{n}$ what is the value of n?

16. If $z = 2\sqrt{2}$ and 2z= $\sqrt{n}$ what is the value of n?

Answers

1	$a - b = -11$
2	$a - b = 3$
3	$a - b = -1$
4	$x = \frac{-6 \pm \sqrt{260}}{-14}$
5	$x = \frac{-7 \pm \sqrt{121}}{-18}$
6	$x = \frac{-7 \pm \sqrt{9}}{4}$
7	$x = \frac{-4 \pm \sqrt{32}}{-4}$
8	$a - b = -6$
9	$a - b = -3$
10	$a - b = -5$
11	4^9
12	2^6
13	3^9
14	$n = 252$
15	$n = 72$
16	$n = 32$