Here are 30 practice questions, with 10 questions from each of the three algebra chapters you provided.

Algebra 1 Questions

1. [cite_start]If $a = 3$, $b = -2$, and $c = 5$, find the value of $a(c - b)$. [cite: 1311]
2. [cite_start]If $x = -3$, evaluate the expression $x^2 - 3x$. [cite: 1398]
3. [cite_start]Simplify the expression $7x + 3x(2x - 3)$ by expanding the bracket and collecting like terms. [cite: 1571]
4. [cite_start]Expand and simplify $(x + 5)(x + 3)$. [cite: 1619, 1620]
5. [cite_start]Solve the linear equation $5x - 3(x - 1) = 39$. [cite: 1796]
6. [cite_start]Solve the equation $(x + 3)^2 = (x + 2)^2 + 9$. [cite: 1817]
7. [cite_start]Solve for *x*: $\frac{x+3}{4} = \frac{2x-1}{3}$. [cite: 1857]
8. [cite_start]The sum of three consecutive whole numbers is 78. Form an equation and solve it to find the numbers. [cite: 1931]
9. Solve the simultaneous equations using the substitution method:
   [cite_start]
   $$2x + y = 5$$
   $$3x - 2y = 4$$
   [cite: 2128]
10. Solve the following simultaneous equations:
    [cite_start]
    $$x + 2y = 8$$
    $$2x + 3y = 14$$
    [cite: 2132, 2133]

Algebra 2 Questions

1. [cite_start]Factorise the expression $ah + ak + bh + bk$ by grouping terms. [cite: 84]
2. [cite_start]Factorise the quadratic expression $x^2 + 2x - 15$. [cite: 131]
3. [cite_start]Factorise fully: $25m^2 - 81n^2$. [cite: 244]
4. [cite_start]Solve the equation $6x^2 + x - 2 = 0$ by factorising. [cite: 368]

5. Use the quadratic formula to solve $2x^2 - 3x - 4 = 0$. [cite_start]Give your answers in surd form. [cite: 464, 472]
6. Solve the equation $x^2 - 10x - 17 = 0$ by completing the square. [cite_start]Give your answers in surd form. [cite: 579]
7. [cite_start]Two positive numbers differ by 3, and their product is 88. Form a quadratic equation to find the two numbers. [cite: 682]
8. The length of a rectangle exceeds its width by 7 cm. [cite_start]If the area is 60 cm², find the length of the rectangle. [cite: 689, 690]
9. Solve the simultaneous equations:
   [cite_start]
   $$y = x + 1$$
   $$y = x^2 + 3x - 2$$
   [cite: 730]
10. Solve the simultaneous equations, giving answers correct to two decimal places where necessary:
    [cite_start]
    $$2x - y = 3$$
    $$y = 2x^2 + 9x - 1$$
    [cite: 747]

Algebra 3 Questions

1. [cite_start]Simplify the algebraic fraction: $\frac{x^2+x-6}{x^2+2x-3}$. [cite: 2251]
2. [cite_start]Write as a single fraction: $\frac{x+1}{4} + \frac{x-2}{5}$. [cite: 2326, 2331]
3. [cite_start]Make *a* the subject of the formula $M(a + B) = T$. [cite: 2495]
4. [cite_start]Make *y* the subject of the formula $\sqrt{\frac{y+x}{y-x}} = 2$. [cite: 2690]
5. The value (*V*) of a diamond is proportional to the square of its mass (*M*). [cite_start]If a diamond with a mass of 10 grams is worth $200, find the value of a diamond with a mass of 30 grams. [cite: 2771, 2772, 2773]
6. The force of attraction, *F*, between two magnets is inversely proportional to the square of the distance, *d*, between them. When the magnets are 2 cm apart, the force is 18 newtons. [cite_start]How far apart are they if the force is 2 newtons? [cite: 2973, 2974, 2975]

7. [cite_start]Simplify the expression $(2x^{-1})^2 \div x^{-5}$. [cite: 2986, 2995]
8. [cite_start]Solve the equation $4^{x-1} = 8^x$. [cite: 3126, 3131]
9. [cite_start]Solve the inequality $5 - 3x \leq 1$. [cite: 3197, 3198]
10. [cite_start]Find the integer values of *x* that satisfy the inequality $x < 3x + 2 < 2x + 6$. [cite: 3274]