**QQQ – GCSE Changing the Subject**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For all of the following equations, make $x$ the subject.

|  |  |  |
| --- | --- | --- |
| 1 | $$ac=\frac{x}{3}-b$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 2 | $$\frac{a}{x+1}=\frac{b}{c}$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 3 | $$a=\sqrt{\frac{b}{x}}$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 4 | $$a=1-bx$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 5 | $$a=\frac{2x+1}{2x-1}$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 6 | $$a=\frac{x}{x+1}$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 7 | $$a\left(x-1\right)=x\left(b+1\right)$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| 8 | $$a=bx+\frac{cx}{3}$$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |

Score: \_\_\_\_ /8 Award: \_\_\_\_\_\_\_\_\_

(5+ Bronze, 6+ Silver, 7+ Gold, 8 Platinum)

**QQQ – GCSE Changing the Subject**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Score: \_\_\_\_ /8 Award: \_\_\_\_\_\_\_\_\_

(5+ Bronze, 6+ Silver, 7+ Gold, 8 Platinum)

**QQQ ANSWERS – GCSE Changing the Subject**

For all of the following equations, make $x$ the subject.

|  |  |  |
| --- | --- | --- |
| 1 | $$ac=\frac{x}{3}-b$$$$x=3ac+3b$$ |  |
| 2 | $$\frac{a}{x+1}=\frac{b}{c}$$$$x=\frac{ca}{b}-1 or x=\frac{ca-b}{b}$$ |  |
| 3 | $$a=\sqrt{\frac{b}{x}}$$$$x=\frac{b}{a^{2}}$$ |  |
| 4 | $$a=1-bx$$$$x=\frac{1-a}{b}$$ |  |
| 5 | $$a=\frac{2x+1}{2x-1}$$$$x=\frac{a+1}{2a-2}$$ |  |
| 6 | $$a=\frac{x}{x+1}$$$$x=\frac{a}{1-a}$$ |  |
| 7 | $$a\left(x-1\right)=x\left(b+1\right)$$$$x=\frac{a}{a-b-1}$$ |  |
| 8 | $$a=bx+\frac{cx}{3}$$$$x=\frac{3a}{3b+c}$$ |  |

(5+ Bronze, 6+ Silver, 7+ Gold, 8 Platinum)