Systems of Equations

Determine whether each system of linear equations has 'unique solution', 'no solution' or 'infinitely many solutions'.

1) $y + 7x = 50$

$14x - 5y = -28$

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2) $3s = -18r + 15$

$12r + 2s = 10$

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3) $54 = -6a + 18b$

$3a - 9b = -27$

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4) $2q = 20 + 5r$

$6q - 15r = 12$

_____

5) $-4s + 2t - 13 = 0$

$8s - 6t = 42$

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6) $5y - 20z = 45$

$y - 4z = 9$

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7) $14m = 3n + 8$

$-6n + 28m = 12$

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8) $-11 = -20u + 5v$

$6u + v = 22$

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9) $-4p + 12q - 36 = 0$

$-p + 3q - 9 = 0$

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10) $-c + 10d = 0$

$-20d + 2c = 3$

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Answer key

Systems of Equations

Determine whether each system of linear equations has 'unique solution', 'no solution' or 'infinitely many solutions'.

1) $y + 7x = 50$
$14x - 5y = -28$

unique solution

2) $3s = -18r + 15$
$12r + 2s = 10$

infinitely many solutions

3) $54 = -6a + 18b$
$3a - 9b = -27$

infinitely many solutions

4) $2q = 20 + 5r$
$6q - 15r = 12$

no solution

5) $-4s + 2t - 13 = 0$
$8s - 6t = 42$

unique solution

6) $5y - 20z = 45$
$y - 4z = 9$

infinitely many solutions

7) $14m = 3n + 8$
$-6n + 28m = 12$

no solution

8) $-11 = -20u + 5v$
$6u + v = 22$

unique solution

9) $-4p + 12q - 36 = 0$
$-p + 3q - 9 = 0$

infinitely many solutions

10) $-c + 10d = 0$
$-20d + 2c = 3$

no solution