

(C1-3.1) Name:

Homework Questions 1 – Simultaneous Equations by Elimination

Solve the following linear-linear simultaneous equations by the elimination method

1. $4x + y = 25$

$$4x - y = 23$$

2. $5m - 2p = 4$

$$3m - 2p = 0$$

3. $3x + 4y = 41$

$$4x - 5y = 3$$

$x =$
$y =$

4. $7x + 4y = -3$

$$3y - 2x = 5$$

$m =$
$p =$

5. $3x - 4y = 14$

$$5x + 3y = -54$$

$x =$
$y =$

$x =$
$y =$

$x =$
$y =$

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Homework Questions 2 – Simultaneous Equations by Substitution

Solve the following linear – linear simultaneous equations by substitution

1. $y = 2x - 10$
 $x + y = 2$

2. $y = x + 3$
 $y - 3x + 13 = 0$

3. $x = y + 1$
 $3x + 2y = 2$

$x =$
$y =$

4. $y = 3x - 5$
 $y = x - 1$

$m =$
$p =$

5. $y = 2x - 1$
 $y = x + 6$

$x =$
$y =$

6. $y = 10x + 3$
 $5x + 3y = 16$

$a =$
$b =$

7. $x = y - 8$
 $2x + 3y = 9$

$x =$
$y =$

8. $x = y - 2$
 $3y - x = 0$

$x =$
$y =$

$x =$
$y =$

$x =$
$y =$

(C1-3.3) Name:

Homework Questions 3 – Linear and Non-Linear Simultaneous Equations

Solve the following linear-non linear simultaneous equations

1. $x^2 + y^2 = 13$
 $y = x + 1$

2. $y = 3x + 11$
 $y = x^2 + 4x + 5$

$x =$
$y =$

$x =$
$y =$

3. $y = x^2 + 7x - 10$
 $y = 3x + 11$

4. $x^2 + y^2 = 2$
 $y = 2x + 1$

$x =$
$y =$

$x =$
$y =$

5. $x^2 + y^2 = 4$
 $y = x + 2$

6. $y = x^2 + 3x + 2$
 $y = 4x + 8$

$x =$
$y =$

$x =$
$y =$

7. $xy = 15$
 $y = 2x - 1$

8. $y = 4x + 14$
 $xy = 12$

$x =$
$y =$

$x =$
$y =$

(C1-3.4) Name:

Homework Questions 4 – Solving Linear Inequalities

Solve the following inequalities, showing each stage of your working out

1. $3x + 4 > 7$

2. $7x - 2 < 19$

3. $3 > 4x + 11$

4. $26 \leq 8 - 9x$

5. $6x - 7 \geq 9 - 2x$

6. $5x - 30 < x - 4$

7. $17 - 3x \geq 9x + 41$

8. $4 + 5x < 8 - 11x$

9. $2(3x - 7) + 3 > 13 - 2x$

10. $3(2x - 7) > 5(6 - x) + 4$

11. $2(x - 7) + 12 \leq -26 + 8x$

12. $8(2x - 4) - 9x \leq 3$

$$13. \quad \frac{x+4}{3} + 2 > 6$$

$$14. \quad \frac{x-3}{2} - 5 \leq 7$$

Find the set of integer values for which:

$$15. \quad 4(x-1) > x+2 \quad \text{and} \quad 3x+5 \geq 5x-3$$

$$16. \quad 5(x-2) \geq -20 \quad \text{and} \quad 7(x-3) + 2 \leq 2$$

$$17. \quad 33 \geq 8x - 7 > 9$$

$$18. \quad 31 < 9x + 4 < 49$$

$$19. \quad -4 \leq 3x + 2 < 11$$

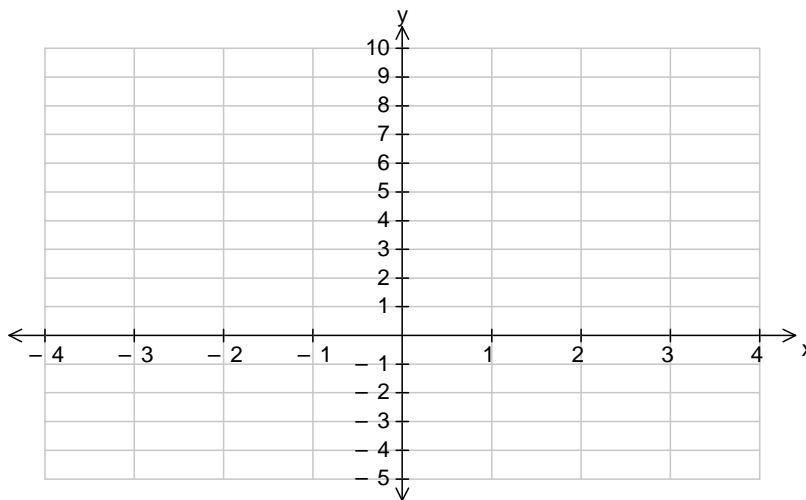
$$20. \quad -2 < 4x + 6 \leq 22$$

(C1-3.5) Name:

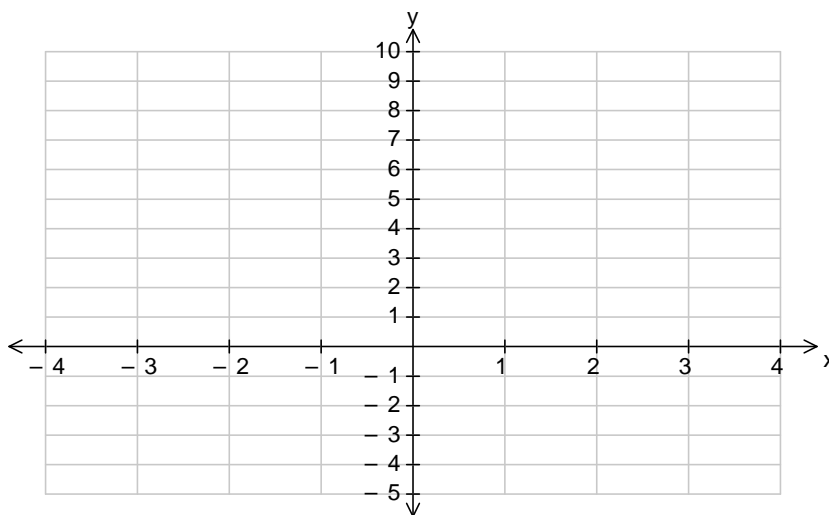
Homework Questions 5 – Solving Quadratic Inequalities by Sketching

Sketch the graphs and then find the set of values of x which satisfy the following inequalities

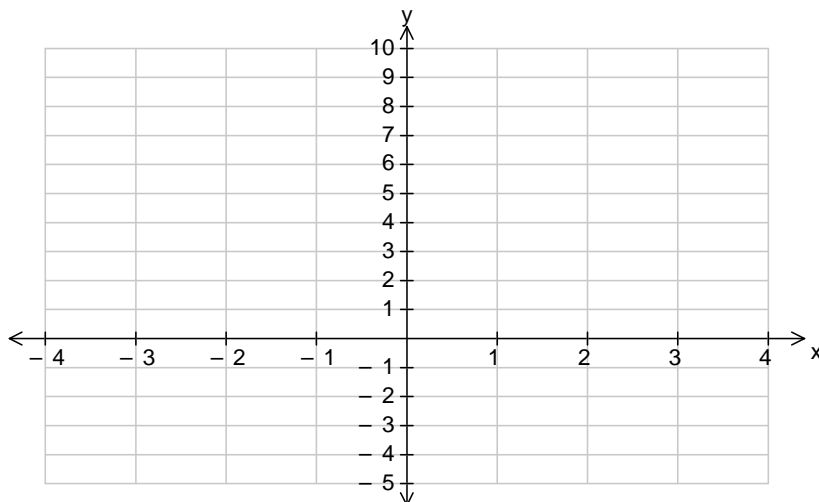
1. $x^2 - x - 2 > 0$



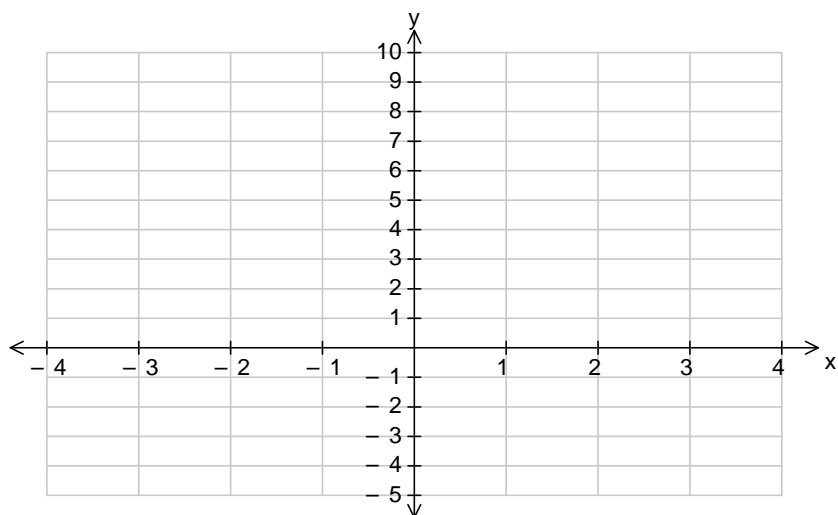
2. $x^2 + 4x + 3 > 0$



3. $x^2 - 4 < 0$



4. $3x^2 < 2 - x$



5. $3x^2 \geq 2 - 5x$

