THE STRIVING

MUSLIM ACADEMY

Islamic and Academic Education

STAGE 6 · MATHEMATICS · PRACTICE PACK

Geometry position and direction

Year 6 of the national curriculum. Every question is worked through at the back, step by step, not just answered.

WHAT IS INSIDE

- Reflecting in the y axis
- Reflecting in the x axis
- Translating across the quadrants
- How each one is worked

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3 sets · a hint on every question

Written for a parent teaching at home. No training assumed, and nothing else to buy.

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Reflecting in the y axis

These get harder as you go down. Do them in order.



1. **Reflect the point (6, −8) in the y axis.**
   The y coordinate stays at −8. Only the x changes sign.

2. **Reflect the point (4, 1) in the y axis.**
   The y coordinate stays at 1. Only the x changes sign.

3. **Reflect the point (−2, 5) in the y axis.**
   The y coordinate stays at 5. Only the x changes sign.

4. **Reflect the point (4, −1) in the y axis.**
   The y coordinate stays at −1. Only the x changes sign.

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Quick check

One right answer each. Ring the letter. These are for seeing what has stuck, so do them without working anything out on paper.



1. Reflect the point (7, 6) in the x axis.

(A) (7, −6) (B) (9, 1) (C) (−4, 6) (D) (−4, 1)

2. Reflect the point (4, 1) in the y axis.

(A) (−4, 1) (B) (5, −4) (C) (4, 3) (D) (7, −5)

3. Reflect the point (−3, −3) in the x axis.

(A) (−3, 3) (B) (5, −4) (C) (3, 3) (D) (8, −3)

4. Reflect the point (3, −3) in the x axis.

(A) (−4, 6) (B) (8, −2) (C) (3, 3) (D) (−7, 7)

5. Translate (6, −3) by 3 in the x direction and 4 in the y direction.

(A) (−4, 6) (B) (3, 3) (C) (5, −4) (D) (9, 1)

6. Reflect the point (−8, −2) in the y axis.

(A) (3, 3) (B) (−4, 6) (C) (8, −2) (D) (9, 1)

7. Translate (7, 1) by 1 in the x direction and −4 in the y direction.

(A) (−6, 5) (B) (−4, 1) (C) (8, −3) (D) (7, −6)

8. Reflect the point (6, 5) in the y axis.

(A) (−6, 5) (B) (5, −4) (C) (−3, 3) (D) (−4, 6)

9. Translate (−1, 2) by −2 in the x direction and 4 in the y direction.

(A) (−4, 6) (B) (2, 5) (C) (3, 3) (D) (−3, 6)

10. Reflect the point (−4, −6) in the x axis.

(A) (3, 3) (B) (8, −3) (C) (−6, 5) (D) (−4, 6)

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How each one is worked

Every answer here was calculated, not typed. If you find one that is wrong, tell us and we will correct the pack and send it to everybody who has it.



REFLECTING IN THE Y AXIS

1. Reflect the point (6, −8) in the y axis.

1. Reflecting in the y axis keeps y the same.
2. The x coordinate changes sign: 6 becomes −6.
3. The point lands at (−6, −8).

Answer: **(−6, −8)**

2. Reflect the point (4, 1) in the y axis.

1. Reflecting in the y axis keeps y the same.
2. The x coordinate changes sign: 4 becomes −4.
3. The point lands at (−4, 1).

Answer: **(−4, 1)**

3. Reflect the point (−2, 5) in the y axis.

1. Reflecting in the y axis keeps y the same.
2. The x coordinate changes sign: −2 becomes 2.
3. The point lands at (2, 5).

Answer: **(2, 5)**

4. Reflect the point (4, −1) in the y axis.

1. Reflecting in the y axis keeps y the same.
2. The x coordinate changes sign: 4 becomes −4.
3. The point lands at (−4, −1).

Answer: **(−4, −1)**

5. Reflect the point (−4, 3) in the y axis.

1. Reflecting in the y axis keeps y the same.
2. The x coordinate changes sign: −4 becomes 4.
3. The point lands at (4, 3).

Answer: **(4, 3)**

6. Reflect the point (−8, −2) in the y axis.

1. Reflecting in the y axis keeps y the same.
2. The x coordinate changes sign: −8 becomes 8.
3. The point lands at (8, −2).

Answer: **(8, −2)**

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SAMPLE PAGES

You have read a few pages. The pack is longer.

What you are holding is a short sample, taken from different parts of the pack so that you can see how a week is planned and what a child is actually asked to do, before you decide.

The complete pack, and the rest of the academic materials, are on our website: schemes of work for a parent teaching at home, and practice packs for the skills children get stuck on.

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Members of the homeschool community do not buy these. If you have joined the community, the pack for the term you are working on is given to you at no cost.

Our Islamic Education classes are free. These packs are part of what pays the teachers who teach them.