

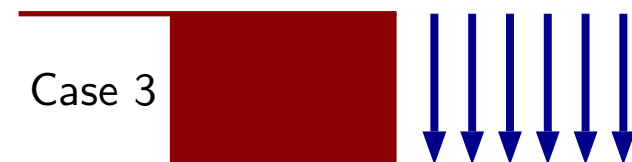
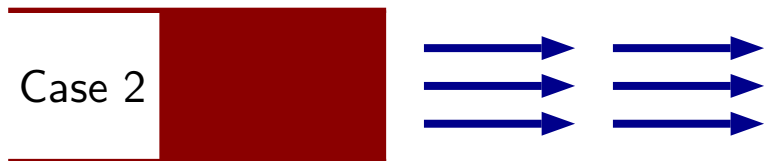
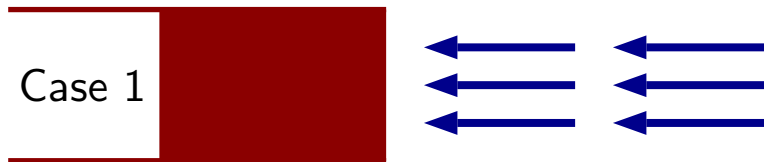
Warm Up Question 1

On page 842 there is a large diagram of various magnetic fields (“An atlas of magnetic fields produced ...”). One part of this shows “A single bar magnet (closeup).” Suppose that a compass is near to this bar magnet and below it (as viewed in the diagram). Which way will the compass needle point (left, right, up, down,...)? Explain your answer.

1. Right. It points toward the north of the bar magnet.
2. Right. North points towards the positive end of the magnet.
3. Left. Along the direction of the magnetic field.
4. No effect. North and south cancel.

Question 1

Which of the following correctly illustrates the magnetic field in the vicinity of the north pole of a bar magnet?



Warm Up Question 2

Look at the situation of “Stop to Think 24.4.” Suppose that the direction of the direction of the current is reversed, i.e. it flows right. In which direction will the compass point? Explain your answer.



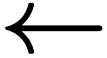
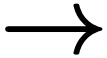
1. Down (direction C). Opposite to the original direction.
2. Right (direction B). Same as direction of the current.
3. Left (direction A). Same as direction of the current.
4. Up (direction D). It's still perpendicular to the current.

Question 2

Two current carrying wires point out of the page as illustrated. The currents are equal in magnitude but flow in opposite directions.

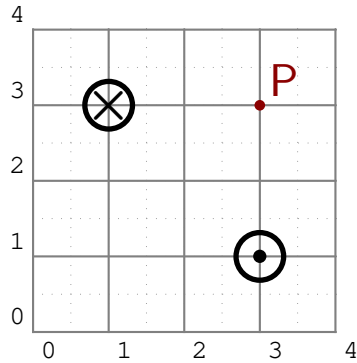


Which of the following best indicates the direction of the magnetic field at the midpoint?

1. 
2. 
3. 
4. 
5. Magnitude is zero \Rightarrow no direction.

Question 3

Two current carrying wires point out of the page as illustrated. The currents are equal in magnitude but flow in opposite directions.



Which of the following best indicates the direction of the magnetic field at point P?

- 1.
- 2.
- 3.
- 4.
- 5.
6. Magnitude is zero \Rightarrow no direction.