Task card 1 Complex Numbers in Polar Form & De...

Write $z = 6(\cos 270° + i \sin 270°)$ in the form a + bi.

Task card 2 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $[2(\cos 45° + i \sin 45°)]^6$ in the form a + bi.

Task card 3 Complex Numbers in Polar Form & De...

Let $w = [3(\cos 110° + i \sin 110°)]^4 = R(\cos \alpha + i \sin \alpha)$ with $0° \leq \alpha < 360°$. Find α.

Task card 4 Complex Numbers in Polar Form & De...

$z_1 = 8(\cos 80° + i \sin 80°)$ and $z_2 = 2(\cos 80° + i \sin 80°)$. Find the argument of z_1/z_2 $(0° \leq \theta < 360°)$.

Task card 5 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $(\cos 105° + i \sin 105°)^6$ in the form a + bi.

Task card 6 Complex Numbers in Polar Form & De...

$z_1 = 16(\cos 280° + i \sin 280°)$ and $z_2 = 4(\cos 140° + i \sin 140°)$. Find the argument of z_1/z_2 $(0° \leq \theta < 360°)$.

Task card 7 Complex Numbers in Polar Form & De...

Let $w = [3(\cos 40° + i \sin 40°)]^7 = R(\cos \alpha + i \sin \alpha)$ with $0° \leq \alpha < 360°$. Find α.

Task card 8 Complex Numbers in Polar Form & De...

$z_1 = 8(\cos 90° + i \sin 90°)$ and $z_2 = 4(\cos 155° + i \sin 155°)$. Find the argument of z_1/z_2 $(0° \leq \theta < 360°)$.

Task card 9 Complex Numbers in Polar Form & De...

Write $z = 6(\cos 150° + i \sin 150°)$ in the form $a + bi$.

Task card 10 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $[3(\cos 135° + i \sin 135°)]^2$ in the form $a + bi$.

Task card 11 Complex Numbers in Polar Form & De...

Let $w = [3(\cos 150° + i \sin 150°)]^8 = R(\cos \alpha + i \sin \alpha)$ with $0° \leq \alpha < 360°$. Find α.

Task card 12 Complex Numbers in Polar Form & De...

$z_1 = 6(\cos 135° + i \sin 135°)$ and $z_2 = 5(\cos 230° + i \sin 230°)$. Find the argument of $z_1 z_2$ $(0° \leq \theta < 360°)$.

Task card 13 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $[2(\cos 60° + i \sin 60°)]^3$ in the form a + bi.

Task card 14 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $[3(\cos 45° + i \sin 45°)]^4$ in the form a + bi.

Task card 15 Complex Numbers in Polar Form & De...

Let $w = [3(\cos 85° + i \sin 85°)]^6 = R(\cos \alpha + i \sin \alpha)$ with $0° \leq \alpha < 360°$. Find α.

Task card 16 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $(\cos 120° + i \sin 120°)^6$ in the form a + bi.

Task card 17 Complex Numbers in Polar Form & De...

Write $z = 2\sqrt{2}(\cos 315° + i \sin 315°)$ in the form a + bi.

Task card 18 Complex Numbers in Polar Form & De...

Let $w = [2(\cos 30° + i \sin 30°)]^5 = R(\cos \alpha + i \sin \alpha)$ with $0° \leq \alpha < 360°$. Find α.

Task card 19 Complex Numbers in Polar Form & De...

$z_1 = 12(\cos 85° + i \sin 85°)$ and $z_2 = 6(\cos 160° + i \sin 160°)$. Find the argument of z_1/z_2 ($0° \leq \theta < 360°$).

Task card 20 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $(\cos 75° + i \sin 75°)^6$ in the form a + bi.

Task card 21 Complex Numbers in Polar Form & De...

Let $w = [2(\cos 45° + i \sin 45°)]^7 = R(\cos \alpha + i \sin \alpha)$ with $0° \leq \alpha < 360°$. Find α.

Task card 22 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $[2(\cos 15° + i \sin 15°)]^6$ in the form a + bi.

Task card 23 Complex Numbers in Polar Form & De...

Use De Moivre's Theorem to write $(\cos 135° + i \sin 135°)^2$ in the form a + bi.

Task card 24 Complex Numbers in Polar Form & De...

Write $z = 8(\cos 180° + i \sin 180°)$ in the form a + bi.

Complex Numbers in Polar Form & De Moivre's Theorem Task Cards

Recording sheet · Grade 12 · Give exact answers. Write complex numbers as a + bi (like -2√3 + 2i) and arguments in degrees with 0° ≤ θ < 360°.

Scan to check your answers

Name: _____ Date: _____

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

Complex Numbers in Polar Form & De Moivre's Theorem Task Cards: Answer Key

Grade 12 · Hard

The answers online

1. -6i	**2.** -64i	**3.** 80°
4. 0°	**5.** -i	**6.** 140°
7. 280°	**8.** 295°	**9.** -3√3 + 3i
10. -9i	**11.** 120°	**12.** 5°
13. -8	**14.** -81	**15.** 150°
16. 1	**17.** 2 - 2i	**18.** 150°
19. 285°	**20.** i	**21.** 315°
22. 64i	**23.** -i	**24.** -8