Complex Numbers in Polar Form & De Moivre's Theorem · 1

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

Complex Numbers in Polar Form & De Moivre's Theorem · 2

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

Complex Numbers in Polar Form & De Moivre's Theorem · 3

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

Complex Numbers in Polar Form & De Moivre's Theorem · 4

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

Complex Numbers in Polar Form & De Moivre's Theorem · 5

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

Complex Numbers in Polar Form & De Moivre's Theorem · 6

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

Complex Numbers in Polar Form & De Moivre's Theorem · 7

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

Complex Numbers in Polar Form & De Moivre's Theorem · 8

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

Complex Numbers in Polar Form & De Moivre's Theorem · 2

ANSWER

-64i

Complex Numbers in Polar Form & De Moivre's Theorem · 1

ANSWER

-6i

Complex Numbers in Polar Form & De Moivre's Theorem · 4

ANSWER

0°

Complex Numbers in Polar Form & De Moivre's Theorem · 3

ANSWER

80°

Complex Numbers in Polar Form & De Moivre's Theorem · 6

ANSWER

140°

Complex Numbers in Polar Form & De Moivre's Theorem · 5

ANSWER

-i

Complex Numbers in Polar Form & De Moivre's Theorem · 8

ANSWER

295°

Complex Numbers in Polar Form & De Moivre's Theorem · 7

ANSWER

280°

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

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

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

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

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

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

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

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

Complex Numbers in Polar Form & De Moivre's Theorem · 10

ANSWER

-9i

Complex Numbers in Polar Form & De Moivre's Theorem · 9

ANSWER

-3√3 + 3i

Complex Numbers in Polar Form & De Moivre's Theorem · 12

ANSWER

5°

Complex Numbers in Polar Form & De Moivre's Theorem · 11

ANSWER

120°

Complex Numbers in Polar Form & De Moivre's Theorem · 14

ANSWER

-81

Complex Numbers in Polar Form & De Moivre's Theorem · 13

ANSWER

-8

Complex Numbers in Polar Form & De Moivre's Theorem · 16

ANSWER

1

Complex Numbers in Polar Form & De Moivre's Theorem · 15

ANSWER

150°

Complex Numbers in Polar Form & De Moivre's Theorem · 17

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

Complex Numbers in Polar Form & De Moivre's Theorem · 18

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

Complex Numbers in Polar Form & De Moivre's Theorem · 19

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

Complex Numbers in Polar Form & De Moivre's Theorem · 20

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

Complex Numbers in Polar Form & De Moivre's Theorem · 21

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

Complex Numbers in Polar Form & De Moivre's Theorem · 22

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

Complex Numbers in Polar Form & De Moivre's Theorem · 23

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

Complex Numbers in Polar Form & De Moivre's Theorem · 24

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

Complex Numbers in Polar Form & De Moivre's Theorem · 18

ANSWER

150°

Complex Numbers in Polar Form & De Moivre's Theorem · 17

ANSWER

2 - 2i

Complex Numbers in Polar Form & De Moivre's Theorem · 20

ANSWER

i

Complex Numbers in Polar Form & De Moivre's Theorem · 19

ANSWER

285°

Complex Numbers in Polar Form & De Moivre's Theorem · 22

ANSWER

64i

Complex Numbers in Polar Form & De Moivre's Theorem · 21

ANSWER

315°

Complex Numbers in Polar Form & De Moivre's Theorem · 24

ANSWER

-8

Complex Numbers in Polar Form & De Moivre's Theorem · 23

ANSWER

-i