Math worksheet on *'Complex Numbers - Exponential to Polar Form (Radians) (Level 1)'*. Part of a broader unit on *'Complex Numbers'*

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1 Find the polar form in radians of this complex number that is in exponential form

$5.7e^{0.8\pi i}$

a. $6.4(cos(0.3\pi\ rad) + i \cdot sin(0.3\pi\ rad))$
b. $7.8(cos(\frac{5}{18}\pi\ rad) + i \cdot sin(\frac{5}{18}\pi\ rad))$
c. $11.7(cos(0.3\pi\ rad) + i \cdot sin(0.3\pi\ rad))$
d. $5.7(cos(0.8\pi\ rad) + i \cdot sin(0.8\pi\ rad))$
e. $8.3(cos(0.3\pi\ rad) + i \cdot sin(0.3\pi\ rad))$
f. $7(cos(0.5\pi\ rad) + i \cdot sin(0.5\pi\ rad))$

2 Find the polar form in radians of this complex number that is in exponential form

$5.7e^{1.3\pi i}$

a. $7.2(cos(1.6\pi\ rad) + i \cdot sin(1.6\pi\ rad))$
b. $5.7(cos(1.3\pi\ rad) + i \cdot sin(1.3\pi\ rad))$
c. $8.8(cos(0.2\pi\ rad) + i \cdot sin(0.2\pi\ rad))$
d. $8.7(cos(\frac{1}{9}\pi\ rad) + i \cdot sin(\frac{1}{9}\pi\ rad))$
e. $9.7(cos(0.1\pi\ rad) + i \cdot sin(0.1\pi\ rad))$
f. $10.5(cos(0.3\pi\ rad) + i \cdot sin(0.3\pi\ rad))$

3 Find the polar form in radians of this complex number that is in exponential form

$5.8e^{1.2\pi i}$

a. $7.1(cos(1.9\pi\ rad) + i \cdot sin(1.9\pi\ rad))$
b. $5.8(cos(1.2\pi\ rad) + i \cdot sin(1.2\pi\ rad))$
c. $8(cos(1\frac{5}{6}\pi\ rad) + i \cdot sin(1\frac{5}{6}\pi\ rad))$
d. $7.1(cos(0.1\pi\ rad) + i \cdot sin(0.1\pi\ rad))$
e. $7.1(cos(1.8\pi\ rad) + i \cdot sin(1.8\pi\ rad))$
f. $6.3(cos(1.7\pi\ rad) + i \cdot sin(1.7\pi\ rad))$

4 Find the polar form in radians of this complex number that is in exponential form

$2.8e^{0.3\pi i}$

a. $3(cos(1\frac{1}{2}\pi\ rad) + i \cdot sin(1\frac{1}{2}\pi\ rad))$
b. $5(cos(1\frac{1}{2}\pi\ rad) + i \cdot sin(1\frac{1}{2}\pi\ rad))$
c. $3(cos(0.2\pi\ rad) + i \cdot sin(0.2\pi\ rad))$
d. $2(cos(2\pi\ rad) + i \cdot sin(2\pi\ rad))$
e. $2.8(cos(0.3\pi\ rad) + i \cdot sin(0.3\pi\ rad))$
f. $3.2(cos(0.1\pi\ rad) + i \cdot sin(0.1\pi\ rad))$

5 Find the polar form in radians of this complex number that is in exponential form

$3.6e^{1.7\pi i}$

a. $2.7(cos(1.7\pi\ rad) + i \cdot sin(1.7\pi\ rad))$
b. $0.9(cos(2\pi\ rad) + i \cdot sin(2\pi\ rad))$
c. $1.9(cos(2\pi\ rad) + i \cdot sin(2\pi\ rad))$
d. $3.6(cos(1.7\pi\ rad) + i \cdot sin(1.7\pi\ rad))$
e. $2.8(cos(1.9\pi\ rad) + i \cdot sin(1.9\pi\ rad))$
f. $1.8(cos(1.8\pi\ rad) + i \cdot sin(1.8\pi\ rad))$

6 Find the polar form in radians of this complex number that is in exponential form

$5.8e^{1.8\pi i}$

a. $5.8(cos(1.8\pi\ rad) + i \cdot sin(1.8\pi\ rad))$
b. $7.3(cos(1.8\pi\ rad) + i \cdot sin(1.8\pi\ rad))$
c. $5(cos(1.8\pi\ rad) + i \cdot sin(1.8\pi\ rad))$
d. $5(cos(1.9\pi\ rad) + i \cdot sin(1.9\pi\ rad))$
e. $7.1(cos(1.8\pi\ rad) + i \cdot sin(1.8\pi\ rad))$
f. $6.4(cos(1\frac{11}{18}\pi\ rad) + i \cdot sin(1\frac{11}{18}\pi\ rad))$

7 Find the polar form in radians of this complex number that is in exponential form

$5.7e^{0.3\pi i}$

a. $5.7(cos(0.3\pi\ rad) + i \cdot sin(0.3\pi\ rad))$
b. $6.4(cos(0.2\pi\ rad) + i \cdot sin(0.2\pi\ rad))$
c. $10.3(cos(0.1\pi\ rad) + i \cdot sin(0.1\pi\ rad))$
d. $8.6(cos(0.2\pi\ rad) + i \cdot sin(0.2\pi\ rad))$
e. $11(cos(0.2\pi\ rad) + i \cdot sin(0.2\pi\ rad))$
f. $7.2(cos(0.3\pi\ rad) + i \cdot sin(0.3\pi\ rad))$