Changing the subject of a formula by factorising

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Name:

Make ***a*** the subject of the following equations

a) $8a = b + ca$

$$a = \frac{b}{8 - c}$$

b) $7a = d - ea$

$$a = \frac{d}{7 + e}$$

c) $5y - 3a = za$

$$a = \frac{5y}{z + 3}$$

d) $7x + 5a = za$

$$a = \frac{7x}{z - 5}$$

e) $5d + 2a = ha$

$$a = \frac{5d}{h - 2}$$

f) $a = 3t - sa$

$$a = \frac{3t}{1 + s}$$

g) $5a + 3 = c - ba$

$$a = \frac{c - 3}{5 + b}$$

h) $4y - a = za$

$$a = \frac{4y}{z + 1}$$

i) $ha - 5 = 2a + 6$

$$a = \frac{11}{h - 2}$$

j) $pa^2 = 4a^2 - 5p$

$$a = \sqrt{\frac{-5p}{p - 4}}$$

k) $za^2 + 3 = 3a^2 - 7$

$$a = \sqrt{\frac{-10}{z - 3}}$$

l) $3ay - 2a = za + 1$

$$a = \frac{1}{3y - 2 - z}$$

Exam question:

$P = \pi r + 2r + 2a$

Make r the subject of the formula

$$r = \frac{p - 2a}{\pi + 2}$$