

12. Solve the equation. Write all apparent solutions. Cross out those that are extraneous.

$$\sqrt[3]{4n-5} = 3$$

a. ~~4~~, no solution

b. 6

c. 5

d. ~~7~~, no solution

e. 8

$$(\sqrt[3]{4n-5})^3 = 3^3$$

$$4n-5 = 27$$

$$4n = 32$$

$$n = 8$$

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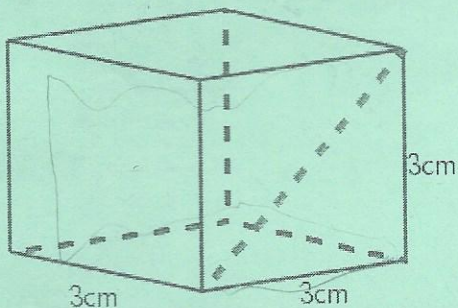
$$\sqrt[3]{4n-5} = 27$$

$$4n-5 = 27$$

$$4n = 32$$

$$n = 8$$

13. Find the exact length of the diagonal (in blue) of one of the faces of the cube.



a. $3\sqrt{3}$ cm

b. $3\sqrt{2}$ cm

c. $6\sqrt{2}$ cm

d. $\frac{3\sqrt{2}}{2}$ cm

e. 6cm

$$c^2 = a^2 + b^2$$

$$3^2 + 3^2 =$$

$$18$$

$$c^2 = 3^2 + 3^2$$

$$c^2 = 18$$

$$c = \sqrt{18}$$

$$\frac{3\sqrt{2}}{2}$$

14. Perform the operation. Write the answer in $a + bi$ form.

$$\frac{4 + 3i}{4 + i}$$

a. $\frac{5}{2} + \frac{8}{17}i$

b. $\frac{3}{2} - \frac{5}{2}i$

c. $2 - \frac{8}{17}i$

d. $\frac{19}{17} + 2i$

e. $\frac{19}{17} + \frac{8}{17}i$

$$\frac{4+3i}{4+i} \cdot \frac{4-i}{4-i}$$

$$\frac{(4+3i)(4-i)}{(4+i)(4-i)}$$

$$\frac{(4+3i)(4-i)}{(4+i)(4-i)}$$

$$\frac{16+4i+12i+3i^2}{16+4i+4i+i^2}$$

$$\frac{16+16i+3i^2}{16+8i+i^2}$$

$$\frac{16+16i+3i^2}{16+8i+i^2}$$

$$\frac{2i}{3}$$