

m3 = 4 days to go!

25 ABCD is a square. ^{90°}
 ABE is an equilateral triangle. ^{60°}

Explain why angle DEC = 150°

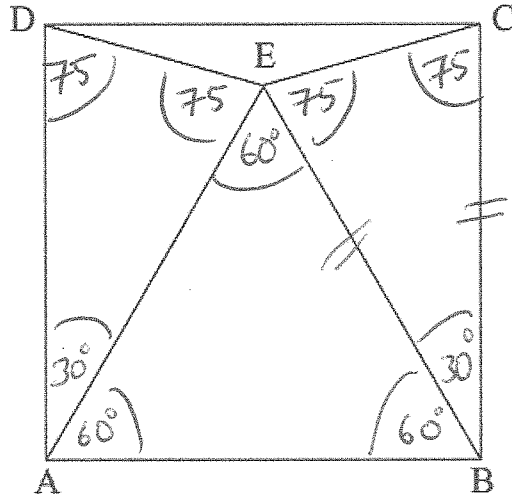
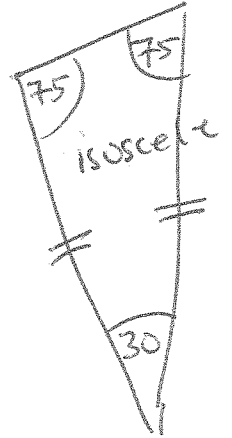


Diagram not drawn accurately



$$\hat{D}EC = 360 - 75 - 75 - 60$$

$$\hat{D}EC = 150$$

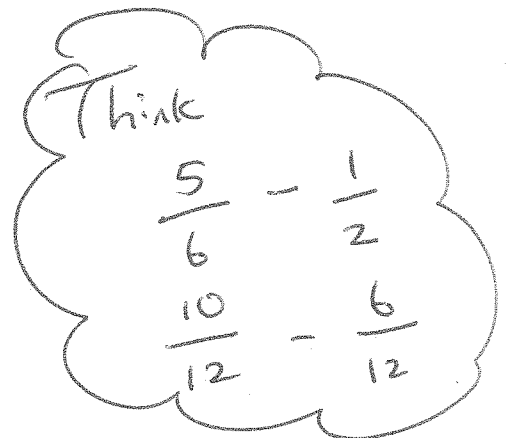
14 Simplify $\frac{5t}{6} - \frac{t}{2}$

Common Denominator

$$\frac{10t}{12} - \frac{6t}{12}$$

$$= \frac{4t}{12}$$

$$= \frac{t}{3}$$



Answer $\frac{4t}{12} = \frac{t}{3}$ [3]

19 (a) Complete the missing power

$$5^6 \div 5^2 = 5^{\boxed{4}}$$

[1]

(b) Show, without the use of a calculator, that

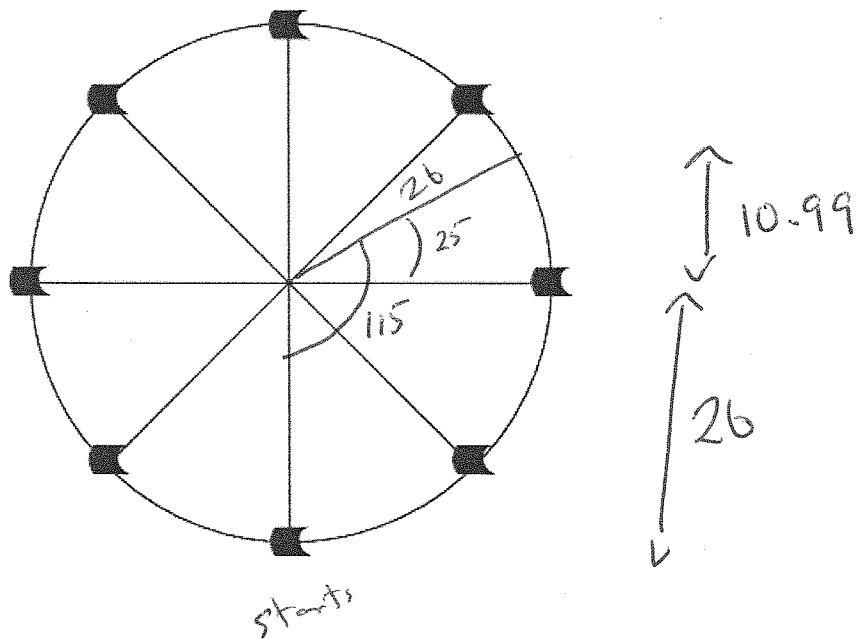
$$8^4 = (2^3)^4 = 2^{12}$$

$$\frac{8^4}{16^2} = 16$$

$$2^{12} \div 2^8 = 2^4 = 16$$

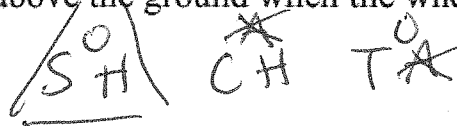
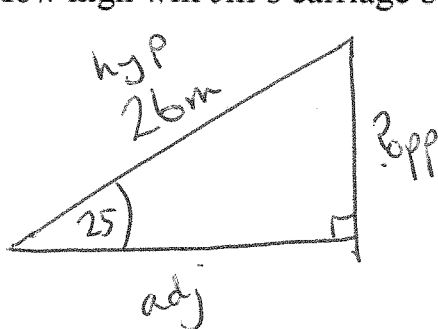
$$16^2 = (2^4)^2 = 2^8$$

24 The diagram shows a big wheel at a fairground. The radius of the wheel is 26 m.



When the wheel starts to turn, Jill is in the bottom carriage on the ground.

How high will Jill's carriage be above the ground when the wheel has turned 115°?



$$\sin 25 = \frac{?}{26}$$

$$? = 26 \sin 25$$

$$? = 10.99 \text{ m}$$

Answer 37 m [4]