



The right formula

Taking driving into the classroom

Revision Quiz Answers: Vehicle Dynamics

- Q** On which laws are vehicle dynamics based upon?
A physics
- Q** Which of the following is correct?
A friction resists motion in the opposite direction of travel
- Q** When is the force of friction being created?
A when two different surfaces are in contact with each other
- Q** What is the unit for measuring forces?
A newtons
- Q** Which type of friction is the most difficult to overcome?
A static
- Q** What is usually the result of sudden braking on a car?
A sliding
- Q** How much is the braking force needed to equal the weight of a car?
A 1g
- Q** Which law explains why cars dig themselves into the ground if it is soft?
A Newton's third law
- Q** When is the movement force equal to the friction force?
A when the car moves at a steady velocity
- Q** Which two forces are opposite forces to the moving force of a car?
A gravity and friction
- Q** What is the term used when a car's tyres lose their grip on the road?
A skidding
- Q** Which of these is most important when cornering in a car?
A tyres
- Q** What do we call the part of a tyre that comes into contact with the road?
A contact patch
- Q** What is the effect of under-inflated tyres to a car's performance?
A slows down
- Q** What is the minimum legal tread depth in the UK?
A 1.6mm



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Revision Quiz Answers: Vehicle Dynamics (continued)

16. **Q** Referring to car tyres, what is traction?
A the tyres' ability to grip the road
17. **Q** During cornering, where is a car's weight being shifted?
A towards the outside of the corner
18. **Q** What does 'roadholding' refer to?
A a car's ability to grip the road
19. **Q** What happens when a car oversteers when cornering?
A the car tends to keep going straight
20. **Q** Which is the main factor for a car's neutral handling at corners?
A even weight distribution
21. **Q** What would be the main cause of a car crash involving speeding?
A human errors
22. **Q** Which is the most severe type of car crash?
A head on
23. **Q** Which road user is less likely to get injured in a crash?
A driver
24. **Q** Which is the correct formula for calculating the force of a crash?
A the mass of the vehicle times the acceleration
25. **Q** In what units do we calculate acceleration?
A metres per hour
26. **Q** If a small and a large car collide, which would be worst off?
A the small car
27. **Q** What would be the force on a car's occupants if it crashed at 30mph?
A 30 times their body weight
28. **Q** Which type of road has fewer crashes per mile driven?
A motorways
29. **Q** How is the risk of injury affected if a car's speed increases by approximately 3mph?
A quadruples
30. **Q** Which part(s) of a car are designed to crumple in the event of a crash?
A the front and rear