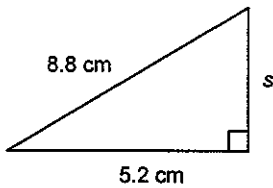


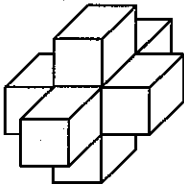
Math 9 Final Review: Short Answer

Short Answer

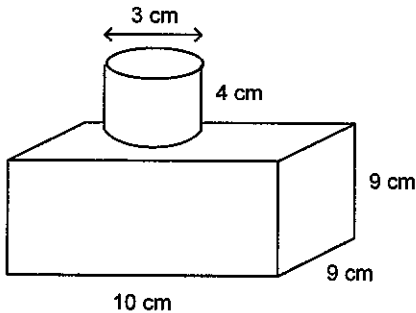
1. Determine the value of $\sqrt{\frac{25}{36}}$.
2. Approximate $\sqrt{\frac{19}{14}}$ to the nearest tenth.
3. Name 2 decimals that have square roots between 2.6 and 2.7.
4. Determine the length of side s .



5. This composite object is made using centimetre cubes. Determine its surface area.



6. Determine the surface area of this composite object, to the nearest square centimetre.
 The cylinder has diameter 3 cm and height 4 cm.
 The prism has length 10 cm, width 9 cm, and height 9 cm.



7. Which answers are positive?

i) $(5)^3$

ii) $(-7)^6$

iii) $(-3)^7$

iv) $(-6)^3$

8. Evaluate: 7^0

9. Write $(2 \times 10^4) + (5 \times 10^2)$ in standard form.

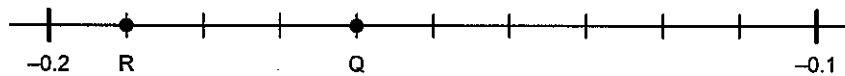
10. Simplify, then evaluate.

$$(-2)^4 \times (-2)^6 \div (-2)^6$$

11. Simplify, then evaluate.

$$(4^6 \div 4^3)^2 - (2^8 \div 2^6)^2$$

12. Write the rational number represented by each letter on the number line, as a decimal.



13. Determine this sum.

$$-4\frac{3}{4} + \left(-1\frac{3}{5}\right)$$

14. Determine this product.

$$4 \times \left(-\frac{7}{3}\right)$$

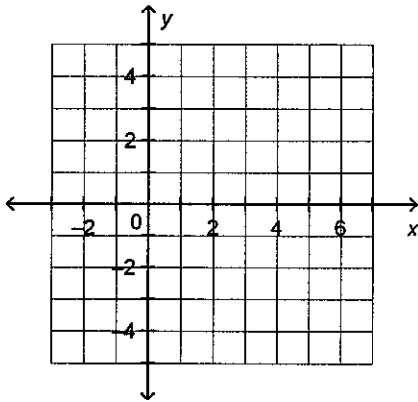
15. Determine this quotient.

$$\left(-\frac{4}{3}\right) \div \left(-\frac{5}{3}\right)$$

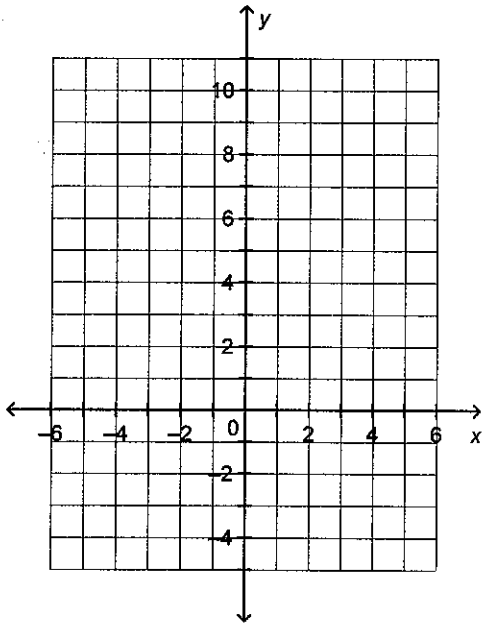
16. The pattern in this table continues. Write an equation that relates the term value to the term number.

Term Number, t	1	2	3	4	5
Term Value, w	5	8	11	14	17

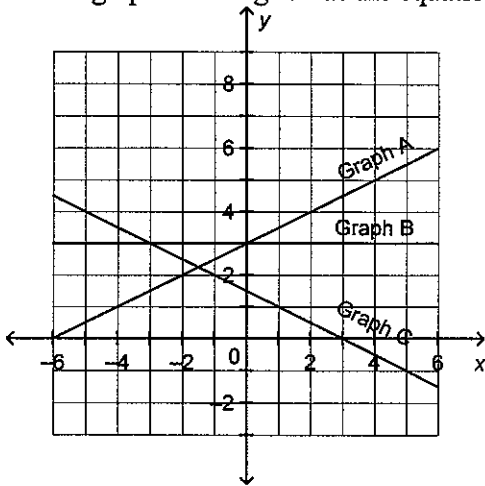
17. Graph the following lines on the same grid. Label the lines.
i) $y = 2$
ii) $x = 4$



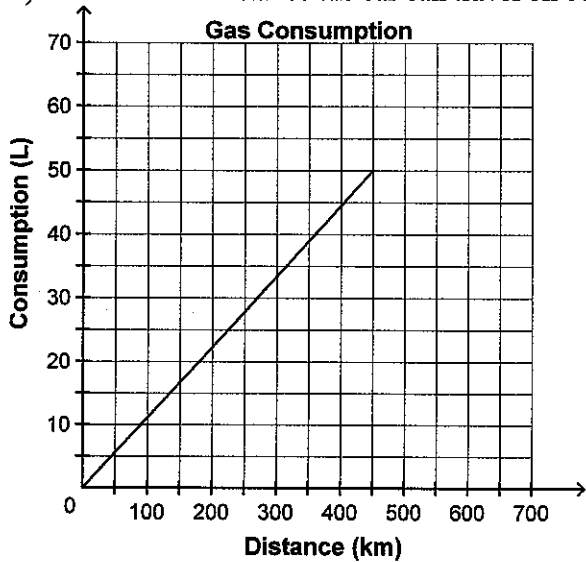
18. Graph the following lines on the same grid. Label the lines.
i) $x + y = 4$
ii) $x - y = -4$



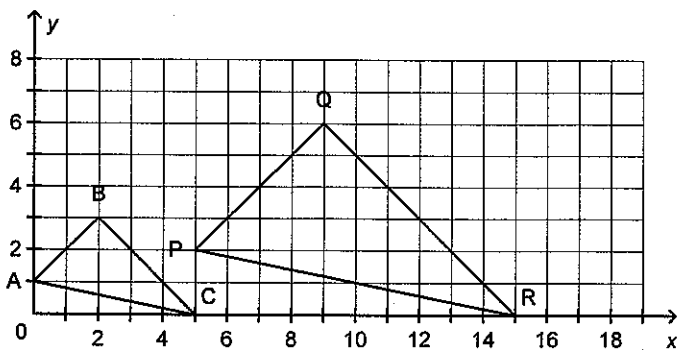
19. Which graph on this grid has the equation $x + 2y = 3$?



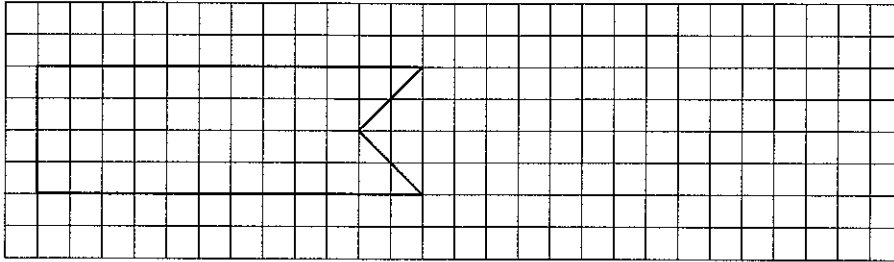
20. This graph shows the gas consumption rate of a car.
- Estimate the volume of gas required to travel 630 km.
 - Estimate the distance the car can travel on 60 L of gas.



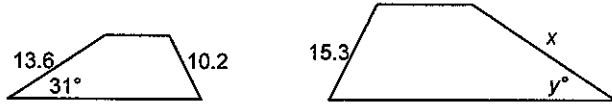
21. Is ΔPQR a scale diagram of ΔABC ? If yes, state the scale factor.



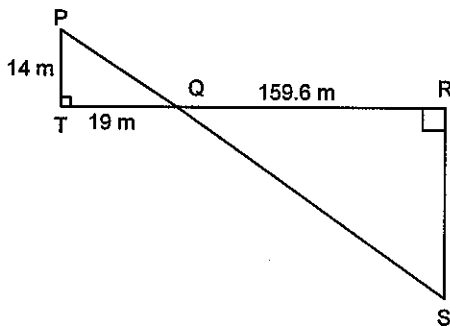
22. Draw a reduction of this pentagon using a scale factor of 0.75.



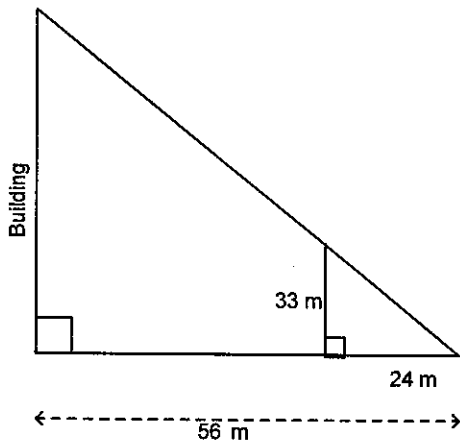
23. These quadrilaterals are similar. Determine the values of x and y° .



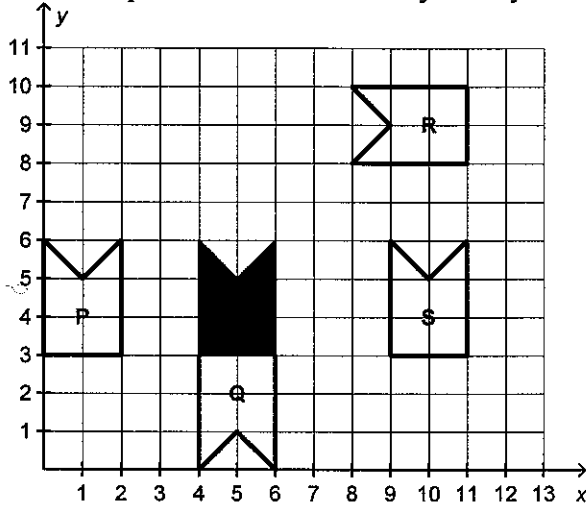
24. Determine the length of RS in these similar triangles.



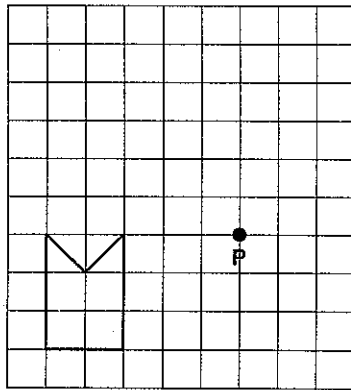
25. This scale diagram shows the measurements a surveyor made to determine the height of a building. What is this height?



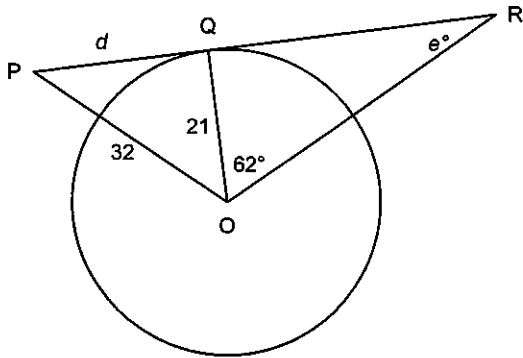
26. Identify the pentagons that are related to the black pentagon by a line of reflection. Describe the position of each line of symmetry.



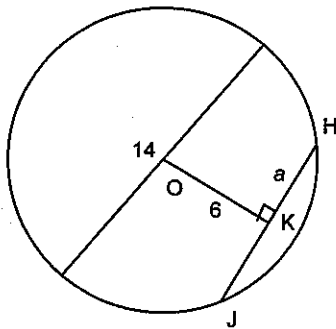
27. Draw the rotation image after rotating the shape 90° clockwise about P.



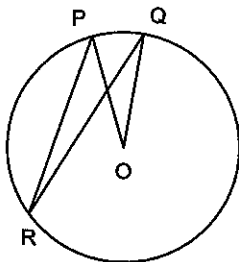
28. O is the centre of this circle and point Q is a point of tangency.
Determine the values of d and e° . If necessary, give your answers to the nearest tenth.



29. Point O is the centre of this circle. Without solving for a , sketch and label the length of any extra line segments you need to draw to determine the value of a .



30. O is the centre of this circle.
In this circle, identify the inscribed angle and the central angle subtended by the same minor arc.



31. Solve: $\frac{6x}{4} = -12$

32. Solve: $20 = \frac{-3x}{4} + 5$

33. Multiply: $5(-2x^2 - 5)$
34. A student solved this equation: $3(2x - 5) = 7 - 3x$

$$3(2x - 5) = 7 - 3x$$

$$6x - 5 = 4x$$

$$6x - 5 + 5 = 4x + 5$$

$$6x = 4x + 5$$

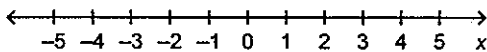
$$6x - 4x = 4x + 5 - 4x$$

$$2x = 5$$

$$x = 2.5$$

Identify any errors the student made.

35. Solve: $8w - 4 \geq 7w - 2$
36. Solve, then graph this inequality: $x + 6 \geq 2$



37. State whether you would reverse the inequality sign to solve each inequality.

a) $6 < -x$

b) $2x \geq -4$

c) $\frac{x}{-4} < -5$

d) $\frac{-x}{3} > 9$

38. Name the coefficients, variable, degree, and constant term in the polynomial $4x^2 - 6x + 8$.

39. Identify the degree of each polynomial.

a) $7t + 4$

b) 4

c) $4p^2 - 7p + 7$

d) $11q^2$

e) $13v$

40. Add: $(10x^2 - 7x + 6) + (-2x^2 + 2x - 9)$

41. Subtract: $(2x^2 + 4) - (8x - 4)$

42. Here is a student's solution for this question:

Multiply: $4x(-3x - 5)$

$$4x(-3x - 5)$$

$$= -12x^2 - 20$$

Identify any errors in the solution.

43. Determine the quotient: $(-10x^2 + 4xy - 6xz) \div (-2x)$