

NO CALCULATOR

Mathematics
Intermediate Sample Questions

1. $(13) - (-7) + (-9) =$

2. $(-5)^2 =$

3. $8.1 \times 10^3 =$

4. Write 0.45 as a percent

5. Change 0.025 to a fraction in lowest terms

6. $\sqrt{25-9} =$

7. $\sqrt{25} - \sqrt{9} =$

8. $6a^4 \times 3a^2 =$

9. $\frac{14x^8}{2x^2}$

10. Evaluate $5ab$ if $a = 2$ and $b = 6$

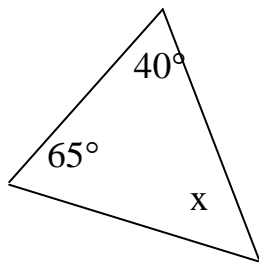
11. Evaluate $\frac{1}{4}x - y$
if $x = -8$ and $y = -1$

12. Simplify $3(5x+3y)(2x-3y)$

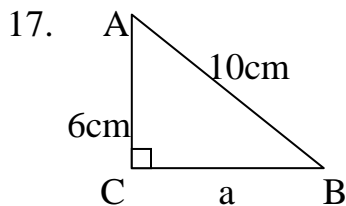
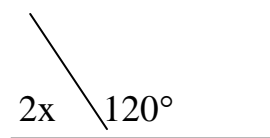
13. Factor $6x^4y + 9x^2y^5$

14. Factor $x^2 + 7x + 10$

15. Solve x .



16. Solve x .



a) Solve length a . [use the Pythagorean Theorem]

b) slope $AB =$ [use formula $\frac{\text{rise}}{\text{run}}$]

c) $\cos B =$ [use formula $\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$]

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Solutions for Mathematics Intermediate Sample Questions

- | | | | | | | | | | |
|------|--------------|-----|-----------------------|-----|----------------------|----|--------|-----|----------------|
| 1. | 11 | 2. | 25 | 3. | 8 100 | 4. | 45 % | 5. | $\frac{1}{40}$ |
| 6. | 4 | 7. | 2 | 8. | $18a^6$ | 9. | $7x^6$ | 10. | 60 |
| 11. | -1 | 12. | $30x^2 - 27xy - 9y^2$ | 13. | $3x^2y(2x^2 + 3y^4)$ | | | | |
| 14. | $(x+5)(x+7)$ | 15. | 75° | 16. | 30° | | | | |
| 17a) | 8cm | b) | $\frac{-3}{4}$ | c) | $\frac{3}{5}$ | | | | |