BOARD PROBLEMS

SIMPLIFY.

① $\frac{8\sqrt{2}}{\sqrt{21}} =$

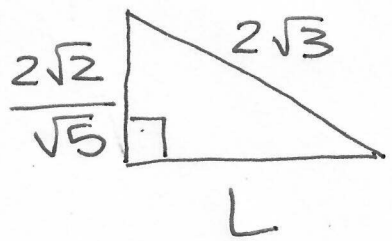
② $3\sqrt{5} \cdot 6\sqrt{30} =$

③ $\frac{10\sqrt{5}}{\sqrt{3}} - \frac{2\sqrt{6}}{\sqrt{2}} =$

④ $\frac{5\sqrt{2}}{\sqrt{6}} + \frac{8}{\sqrt{3}} =$

4b $4\sqrt{2} - 8\sqrt{3}$

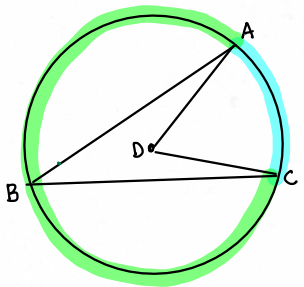
⑤



Find L.

=

⑥



$m\overset{\frown}{AC} = 50°$

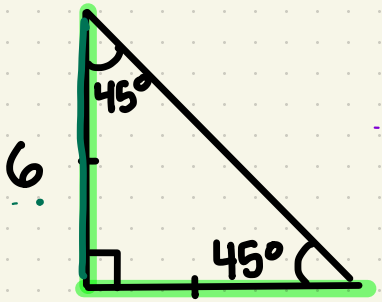
1) what is the measure of $\angle ADC =$ ____

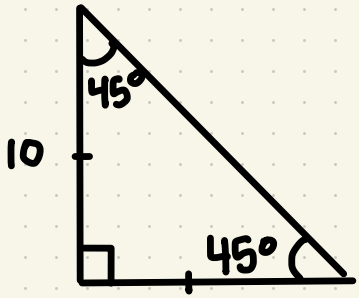
2) what is the $m\angle ABC =$ ____?

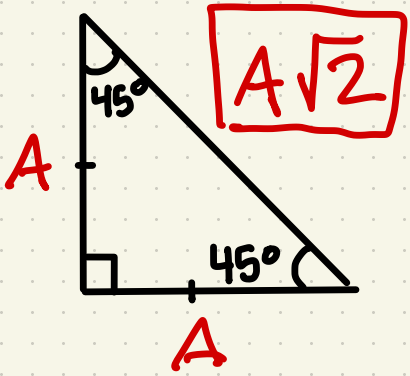
3) what is the $m\overset{\frown}{ABC} =$ ____?

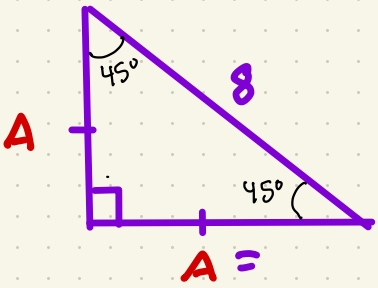
Ch.20 - SPECIAL TRIANGLES
$45° - 45° - 90°$

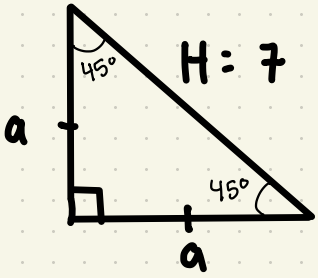
$$L^2 + L^2 = H^2$$

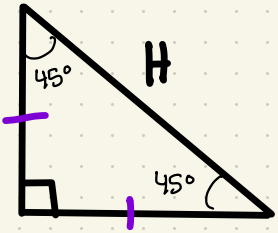


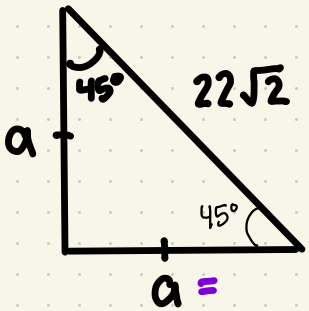


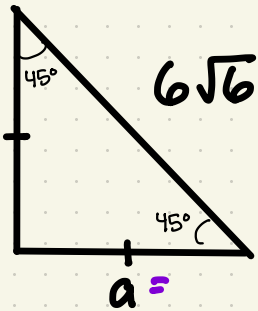


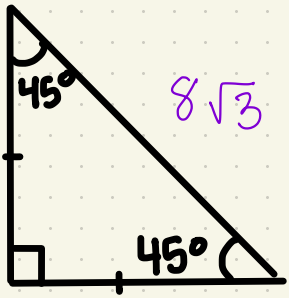

45°
8
A
45°
A =


45°
H: 7
a
45°
a


45°
H
45°


45°
22√2
a
45°
a =


45°
6√6
45°
a =


45°
8√3
45°

20A

Fill in the blanks.

1. If a right triangle has one 45° angle, the other angles will have measures of _____° and _____°.

2. Since a 45° right triangle has two congruent legs, it can be named an _____ triangle.

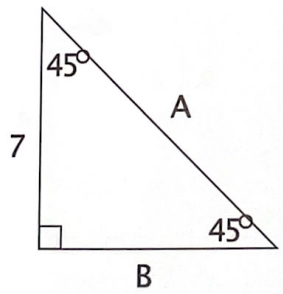
3. The longest side of a right triangle is called the _____ .

4. The sides opposite two 45° angles are _____ in length.

5. To find the unknown side of any right triangle, use the _____ theorem.

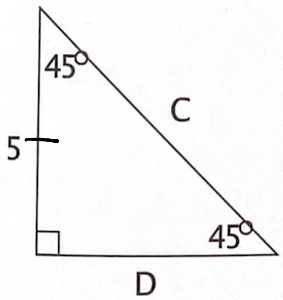
6. If a triangle is a 45°–45°–90° triangle, the longer side is always _____ times the leg.

Find the unknown sides of these right triangles.



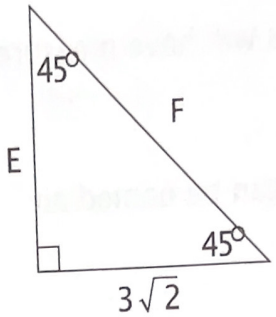
7. A = _____

8. B = _____



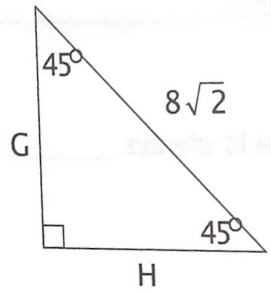
9. C = _____

10. D = _____



11. E = _____

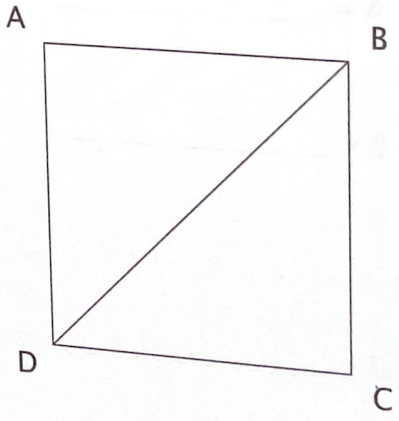
12. F = _____



13. G = _____

14. H = _____

15. If ABCD is a square with one side equal to 10 cm, what is the length of $\overline{BD}$?



LESSON PRACTICE

Write on one line.

1. $\frac{1}{8^{-2}} =$

2. $\frac{1}{5^{3}} =$

Rewrite using positive exponents.

3. $7^{-1} =$

4. $X^{-6} =$

Simplify each expression and write it on one line.

5. $4^{-8} \cdot 4^{5} =$

6. $6^{-4} \cdot 6^{-2} =$

7. $(3^{-3})^{2} =$

8. $(A^{4})^{-5} =$

9. $(4^{-2})^{3} =$

10. $C^{0} D^{-5} D^{6} C^{1} C^{2} C^{3} =$

Simplify each expression and write it on one line.

11. $E^0 F^3 F^4 E^{-5} F^{-2} E^{-6} =$

12. $B^{-6} C^1 C^2 C^3 C^{-4} B^7 =$

13. $Y^{-10} \cdot Y^5 \div Y^3 =$

14. $A^{8X} \div A^{3X} =$

15. $\dfrac{X^{-5}Y^2X^3Y^2}{Y^{-3}Y^4X^2} =$

16. $\dfrac{A^{-3}B^2A^5B^3}{B^4A^{-3}A^5} =$

Simplify as directed.

1. Write on one line: $\frac{1}{3^2}$

2. Rewrite using positive exponents: 2^{-4}

3. Write on one line: $\frac{1}{7^{-2}}$

4. Rewrite using positive exponents: Y^{-5}

Simplify each expression and write it on one line.

5. $4^5 \cdot 4^{-2} =$

6. $5^{-2} \cdot 5^{-6} =$

7. $A^{-8} B^{-2} A^3 A^4 B^5 =$

8. $D^{-2} C^3 C^4 D^4 C^{-2} D^4 =$

9. $4^{-10} \cdot 4^6 =$

10. $X^5 \div X^4 =$

11. $(3^3)^2 =$

12. $(2^5)^7 =$

13. $(-8)^2 =$

14. $\sqrt{25} =$

15. $\frac{E^{-1}F^{2}F^{3}E^{4}}{F^{-2}E^{-3}E^{5}} =$

16. What number is this? $1 \times 10^{3} + 3 \times 10^{2} + 7 \times 10^{0} + 8 \times 10^{-2}$
(This is exponential notation.)

For #17–18: Find three consecutive odd integers such that three times the first integer, plus four times the second, equals negative thirteen times the third integer.

17. Write the equation using unknowns.

18. Solve the equation to find the integers.

19. Seven nickels and dimes have a total value of $.45.
How many are there of each coin?

20. Write $5X + 10Y - 20 = 0$ in the slope-intercept form.

SYSTEMATIC REVIEW

Simplify as directed.

1. Write on one line: $\frac{1}{4^{-5}}$

2. Rewrite using positive exponents: 5^{-8}

3. Write on one line: $\frac{1}{X^5}$

4. Rewrite using positive exponents: A^{-1}

Simplify each expression and write it on one line.

5. $X^A \cdot X^B =$

6. $3^{-2} \cdot 3^8 =$

7. $E^0 F^5 E^{-1} F^{-2} E^3 F^3 =$

8. $C^{-8} B^5 C^1 C^2 B^{-6} C^4 =$

9. $7^{-3} \div 7^{-6} =$

10. $X^{10Y} \div X^{5Y} =$

11. $(10^3)^4 =$

12. $(1{,}000^5) = 10^?$

13. $-5^2 =$

14. $-\sqrt{36} =$

15. $\frac{C^5D^4D^{-3}}{D^{-2}C^1C^{-3}D^4} =$

16. What number is this? $2 \times 10^4 + 5 \times 10^1 + 6 \times 10^{-1} + 9 \times 10^{-2}$

For #17–18: Find three consecutive even integers such that three times the first integer, plus six times the second, equals eight times the third, minus fourteen.

17. Write the equation using unknowns.

18. Solve the equation to find the integers.

19. Eleven quarters and dimes have a total value of $2.15. How many are there of each coin?

20. Solve for X and Y: $Y - X = 0$, $Y - 3X = -4$