Year 8 Mathematics Revision Pack 1

BIS ABU DHABI

Name:
Teacher:

Pack Guidance

Dear Parents,

This pack is designed to provide all the resources necessary for your child's revision this term. The pack is structured to allow both yourselves and your son/daughter to plan their home study and contains resources that will help them either consolidate key mathematical concepts for year 8 or access some challenging enrichment activities.

These tasks will form the basic level of additional revision that all pupils can access. However, we appreciate that some pupils may finish work quicker or may need more challenging materials so have provided extra resources in four appendices:

- **A.** Appendix A consists of revision from year 7.
- **B.** Appendix B consists of further retention sheets for those wanting extra practice. These questions will appear in the year 8 exams, so they can also be used for revision.
- **C.** Appendix C consists of enrichment tasks. The content of these tasks is much the same, but they require a far higher degree of problem solving and logical thinking. They are excellent preparation for taking part in future maths competitions.
- **D.** Revision sheets for the Mid-Year Exam.

We hope you find the pack useful and thank you in advance for all your support this term.

Kind regards,

Stephen Starost

Head of Mathematics

Year 8 Sheet 1.1

1. Calculate:

(a) $9 \times 9 =$ (b) $10 \times 8 =$ (c) $8 \times 12 =$

(d) $10 \times 12 =$ (e) $-3 + 7 =$ (f) $-7 - (-7) =$

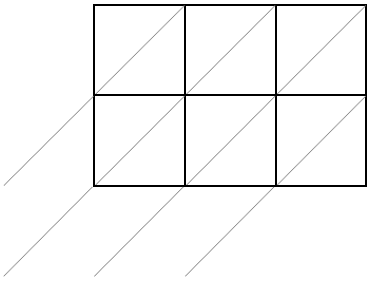
(g) $-7 \times (11) =$ (h) $-9 \div (-3) =$ (i) $4 - (-5) =$

2. Calculate:

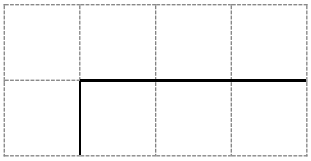
(a) $32.73 + 84.55 =$

(b) $88.1 - 8.81 =$

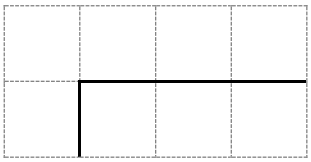
(c) $85 \times 154 =$



(d) $189 \div 3 =$



(e) $728 \div 7 =$



3. Simplify:

(a) $\frac{36}{44}$

(b) $\frac{70}{420}$

4. Write each improper fraction as a mixed number.

(a) $\frac{47}{5} =$

(b) $\frac{27}{7} =$

5. Write each mixed number as an improper fraction.

(a) $9\frac{11}{12} =$

(b) $8\frac{1}{2} =$

Year 8 Sheet 2.1

1. Round to the nearest whole number:

(a) $8.011 \approx$ (b) $54.893 \approx$ (c) $126.250 \approx$

2. Round to one decimal place:

(a) $8.011 \approx$ (b) $54.893 \approx$ (c) $126.250 \approx$

3. Calculate:

(a) $7^2 =$ (b) $\sqrt{196} =$ (c) $4^3 =$ (d) $\sqrt[3]{8}$

4. Simplify:

(a) $-9x - 3y - 5x + 3x$ (b) $4x^2 + 2x - 5x^2 - 3x$

5. Calculate:

(a) $-2 \times (-2) + (-3)$ (b) $9 \times 5 + 8 \times 5$

6. Place the fractions below in ascending order

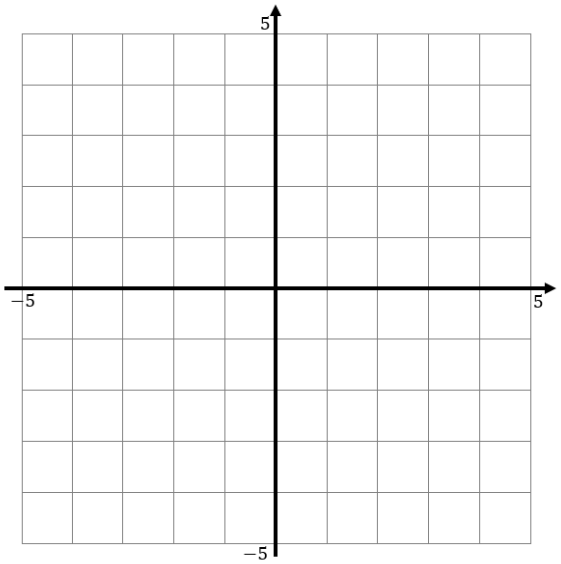
$$\frac{17}{32}, \quad \frac{7}{8}, \quad \frac{1}{2}, \quad \frac{3}{4}, \quad \frac{15}{16}$$

7. Calculate each percentage change giving your answer to 1 decimal place.

(a) Increase 455 by 60% (b) Decrease 101 by 63%

Year 8 Sheet 3.1

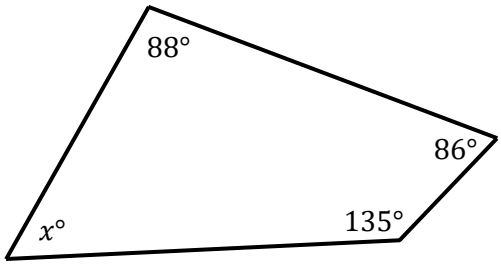
1. On the diagram below:



(a) Plot the points $(-4,-5), (-4,3)$ & $(4,3)$.
(b) Connect the dots to make a shape.
(c) Reflect the shape in the line $y = x$

2. If $x = -8$ and $y = -3$.
Find A where $A = -4x - 5y$

3. Calculate $x°$



4. What is a tangent of a circle?

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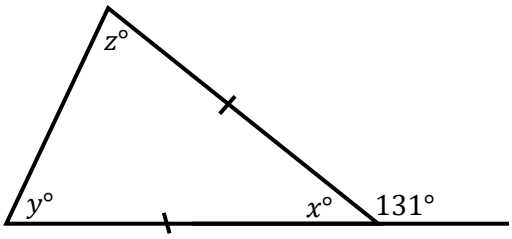
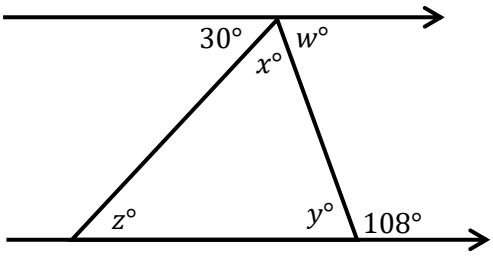
.....

5. Fill in all the missing angles in the diagrams below:

(a)



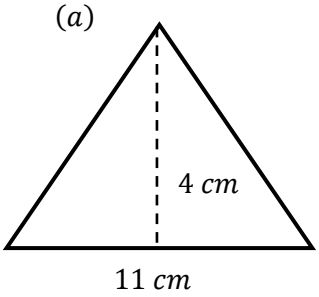
(b)



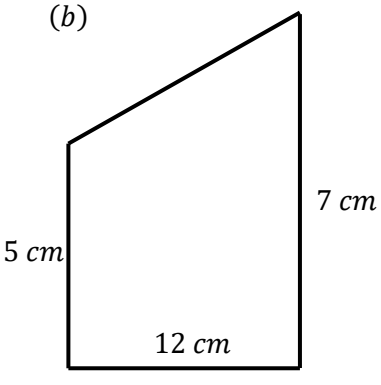
6. What is the name of a polygon with 7 sides? .....

7. Calculate the area of each of the shapes:

(a)



(b)



Year 8 Sheet 1.2

1. Calculate:

(a) $10 \times 8 =$ (b) $7 \times 6 =$ (c) $12 \times 3 =$

(d) $6 \times 5 =$ (e) $-8 + 0 =$ (f) $2 + (-7) =$

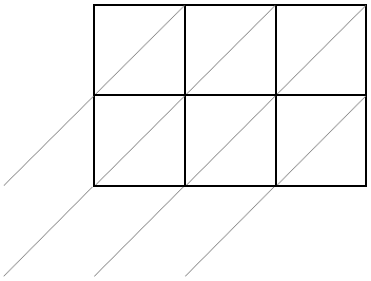
(g) $-8 \times (-2) =$ (h) $-14 \div (-2) =$ (i) $-4 - (-7) =$

2. Calculate:

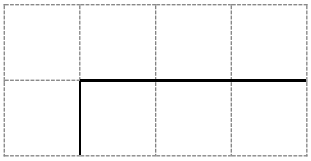
(a) $46.07 + 9.58 =$

(b) $86.3 - 58.34 =$

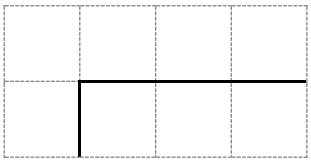
(c) $24 \times 384 =$



(d) $304 \div 4 =$



(e) $201 \div 3 =$



3. Simplify:

(a) $\frac{44}{48}$

(b) $\frac{96}{144}$

4. Write each improper fraction as a mixed number.

(a) $\frac{71}{5} =$

(b) $\frac{93}{7} =$

5. Write each mixed number as an improper fraction.

(a) $9\frac{1}{4} =$

(b) $1\frac{11}{12} =$

Year 8 Sheet 2.2

1. Round to the nearest whole number:

(a) $3.696 \approx$ (b) $40.124 \approx$ (c) $958.791 \approx$

2. Round to one decimal place:

(a) $3.696 \approx$ (b) $40.124 \approx$ (c) $958.791 \approx$

3. Calculate:

(a) $12^2 =$ (b) $\sqrt{169} =$ (c) $5^3 =$ (d) $\sqrt[3]{8}$

4. Simplify:

(a) $-8\mathrm{y} + 7x - 5\mathrm{y} + \mathrm{y}$ (b) $-1x^2 + 9x + 9x^2 + 2x$

5. Calculate:

(a) $-1 \times 3 + 7$ (b) $3 \times (-9) + (-3) \times 9$

6. Place the fractions below in descending order

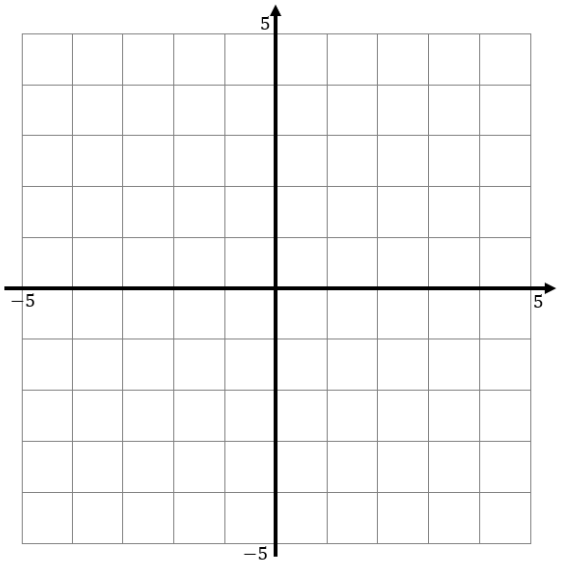
$$\frac{17}{32}, \quad \frac{3}{8}, \quad \frac{1}{2}, \quad \frac{1}{4}, \quad \frac{7}{16}$$

7. Calculate each percentage change giving your answer to 1 decimal place.

(a) Increase 492 by 17% (b) Decrease 128 by 45%

Year 8 Sheet 3.2

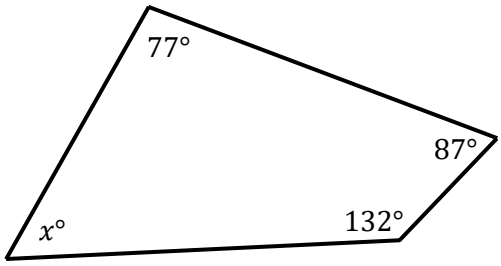
1. On the diagram below:



(a) Plot the points $(-4,-2), (-4,4)$ & $(4,4)$.
(b) Connect the dots to make a shape.
(c) Reflect the shape in the line $y = x$

2. If $x = 9$ and $y = 1$.
Find A where $A = -4x - 4y$

3. Calculate $x°$



4. What is a segment of a circle?

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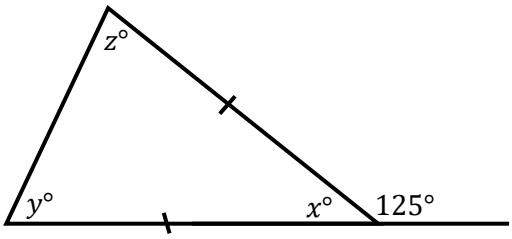
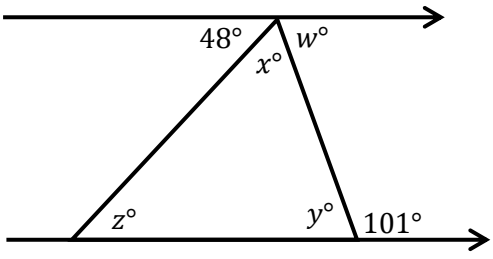
5. Fill in all the missing angles in the diagrams below:

(a)



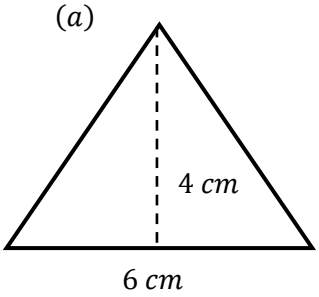
(b)



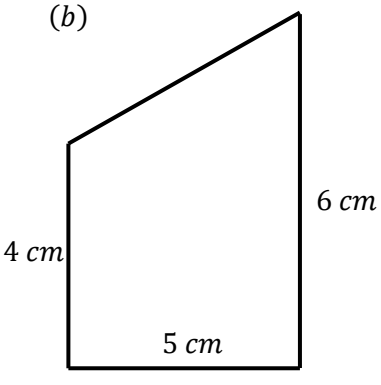
6. What is the name of a polygon with 4 sides? .....

7. Calculate the area of each of the shapes:

(a)



(b)



Year 8 Sheet 4.1

Calculate simplifying your answer where appropriate.

1. $1\frac{1}{5} - 1\frac{7}{10} =$

2. $2\frac{3}{10} - 2\frac{1}{2} =$

3. $1\frac{1}{3} \div 3\frac{3}{7} =$

4. $2\frac{3}{4} - 1\frac{5}{7} =$

5. $1\frac{1}{3} \div 3\frac{3}{4} =$

6. $1\frac{1}{3} \times 2\frac{5}{8} =$

7. $3\frac{1}{4} \div 2\frac{2}{3} =$

8. $3\frac{1}{2} \times 1\frac{5}{7} =$

9. $1\frac{3}{5} - 3\frac{3}{4} =$

10. $2\frac{3}{5} \div 1\frac{1}{9} =$

Year 8 Sheet 4.2

Calculate simplifying your answer where appropriate.

1. $1\frac{3}{7} \times 1\frac{5}{9} =$	**2.** $3\frac{1}{3} + 1\frac{3}{10} =$
3. $2\frac{2}{3} \times 3\frac{3}{11} =$	**4.** $2\frac{2}{3} + 3\frac{5}{8} =$
5. $3\frac{6}{11} + 2\frac{3}{5} =$	**6.** $2\frac{4}{5} \times 2\frac{2}{3} =$
7. $2\frac{1}{10} \div 1\frac{1}{3} =$	**8.** $1\frac{5}{7} \times 2\frac{7}{11} =$
9. $2\frac{3}{4} + 2\frac{2}{7} =$	**10.** $3\frac{2}{5} - 2\frac{2}{11} =$

Year 8 Sheet 5.1

Calculate simplifying your answer where appropriate.

1. $3\frac{1}{11} - 2\frac{7}{8} =$	**2.** $2\frac{4}{9} \div 1\frac{1}{11} =$	**3.** $3\frac{4}{11} \div 3\frac{3}{10} =$
4. $2\frac{1}{10} \div 2\frac{2}{3} =$	**5.** $3\frac{6}{7} \div 2\frac{2}{5} =$	**6.** $1\frac{2}{3} \times 1\frac{5}{11} =$

Expand and simplify:

7. $-(-2x - 8)$	**8.** $-3(5x + 9)$	**9.** $2(-8x + 6)$
10. $-8 + 5(7x + 8)$	**11.** $8 - 8(5x - 4)$	**12.** $8 + 8(-9x - 3)$
13. $-5x(-7x - 2) - 3(6x - 6)$	**14.** $8x(7x - 5) - 6(-3x + 3)$	**15.** $9x(-9x + 6) - 9(2x + 9)$

Year 8 Sheet 5.2

Calculate simplifying your answer where appropriate.

1. $1\frac{2}{3}+1\frac{1}{5}=$	**2.** $1\frac{2}{7}\times\ 1\frac{5}{6}=$	**3.** $1\frac{3}{8}\times\ 1\frac{3}{11}=$
4. $2\frac{11}{12}\div\ 2\frac{3}{4}=$	**5.** $3\frac{1}{3}-1\frac{3}{8}=$	**6.** $1\frac{2}{3}\times\ 1\frac{4}{9}=$

Expand and simplify:

7. $-(3x+9)$	**8.** $-(6x-3)$	**9.** $-4(-4x+5)$
10. $2-2(-8x-8)$	**11.** $-7-9(7x+8)$	**12.** $-7+2(x+4)$
13. $8x(6x-6)-7(-2x-7)$	**14.** $-3x(-3x+6)+7(-4x-4)$	**15.** $-7x(6x-9)+7(-3x-1)$

Year 8 Sheet 6.1

Calculate simplifying your answer where appropriate:

1. $3\frac{10}{11} + 3\frac{4}{7} =$	**2.** $3\frac{1}{3} \times 3\frac{10}{11} =$	**3.** $1\frac{1}{4} \div 1\frac{9}{11} =$

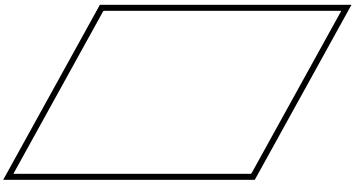
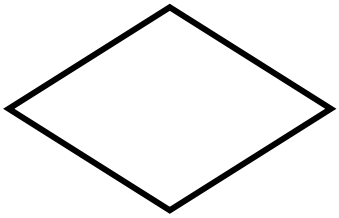
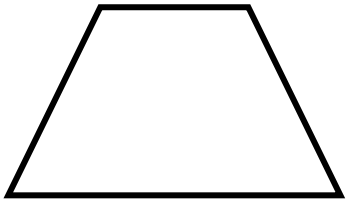
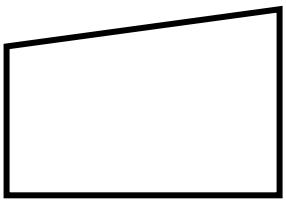
Expand and simplify:

4. $5(2x + 2)$	**5.** $-4 + 2(2x - 3)$	**6.** $-3x(-8x - 2) + (5x + 2)$

Write the next three terms of each sequence:

7. $5, 10, 20, 40, 80$ …	**8.** $-6, -4, -10, -14, -24$ …	**9.** $0, 9, 18, 27, 36$ …

On each of the polygons mark parallel sides, same lengths and same angles using geometric notation:

Parallelogram	Rhombus
	
Isosceles Trapezium	**Trapezium**
	

Year 8 Sheet 6.2

Calculate simplifying your answer where appropriate:

1. $2\frac{8}{11}+2\frac{1}{3}=$	**2.** $3\frac{1}{3}\times\ 3\frac{2}{7}=$	**3.** $1\frac{1}{3}\div\ 1\frac{1}{4}=$

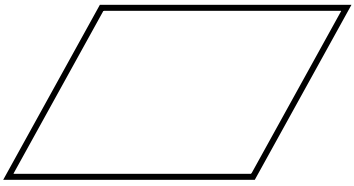
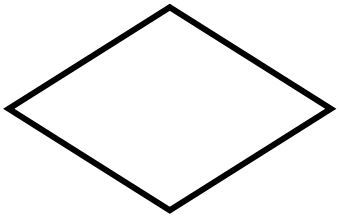
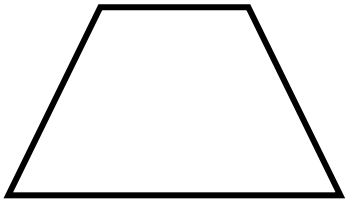
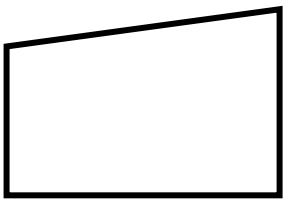
Expand and simplify:

4. $-4(6x+7)$	**5.** $8+5(x-1)$	**6.** $3x(6x-2)+6(4x+4)$

Write the next three terms of each sequence:

7. $8,-8,8,-8,8\ldots$	**8.** $-7,-1,5,11,17\ldots$	**9.** $-10,-18,-26,-34,-42\ldots$

On each of the polygons mark parallel sides, same lengths and same angles using geometric notation:

Parallelogram	Rhombus
	
Isosceles Trapezium	**Trapezium**
	

Year 8 Sheet 6.3

Calculate simplifying your answer where appropriate:

1. $1\frac{7}{10} - 3\frac{5}{7} =$	**2.** $1\frac{3}{11} \times 2\frac{5}{6} =$	**3.** $3\frac{5}{8} \div 1\frac{3}{4} =$

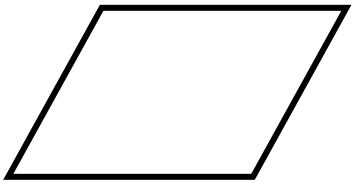
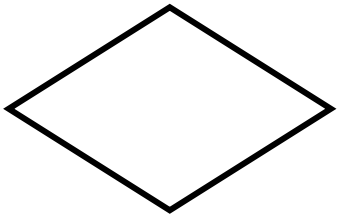
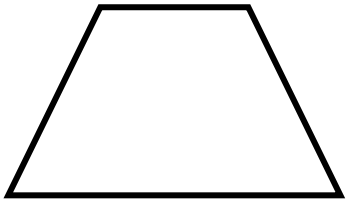
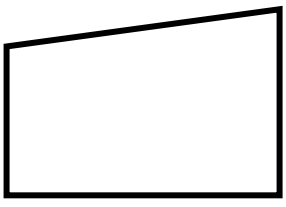
Expand and simplify:

4. $-8(x-2)$	**5.** $4-6(-8x-5)$	**6.** $4x(-6x+5)-8(-5x+9)$

Write the next three terms of each sequence:

7. $4, -12, 36, -108, 324 \ldots$	**8.** $8, 5, 2, -1, -4 \ldots$	**9.** $8, 24, 72, 216, 648 \ldots$

On each of the polygons mark parallel sides, same lengths and same angles using geometric notation:

Parallelogram	Rhombus
	
Isosceles Trapezium	**Trapezium**
	

Year 8 Sheet 6.4

Calculate simplifying your answer where appropriate:

1. $1\frac{2}{3}+3\frac{3}{5}=$	**2.** $3\frac{4}{11}\times\ 2\frac{3}{4}=$	**3.** $2\frac{5}{8}\div\ 2\frac{1}{4}=$

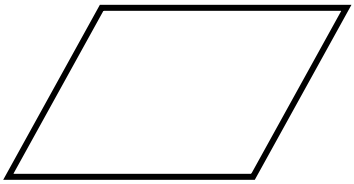
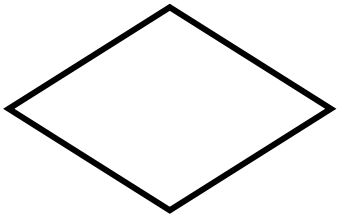
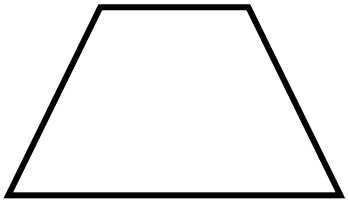
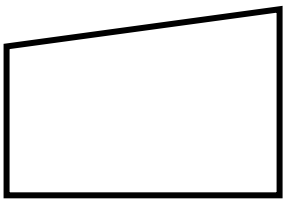
Expand and simplify:

4. $-8(-x+4)$	**5.** $5+9(-3x+4)$	**6.** $6x(-5x-6)-5(8x-5)$

Write the next three terms of each sequence:

7. $3,-6,12,-24,48\ldots$	**8.** $6,8,10,12,14\ldots$	**9.** $4,4,8,12,20\ldots$

On each of the polygons mark parallel sides, same lengths and same angles using geometric notation:

Parallelogram	Rhombus
	
Isosceles Trapezium	**Trapezium**
	

Year 8 Sheet 7.1

1. Find:

$(a)\quad 2\frac{1}{6} - 2\frac{1}{4} =$

$(b)\quad 2\frac{2}{11} \times 1\frac{2}{3} =$

$(c)\quad 2\frac{2}{3} \div 3\frac{3}{8} =$

2. Expand and simplify:

$(a)\quad -9(-4x - 6)$

$(b)\quad 9 + (5x + 5)$

$(c)\quad x(8x + 2) - 8(-8x + 9)$

3. Find the next three terms in the sequence:

$$6, -8, -2, -10, -12 \ldots$$

and state how you found them.

4. Write each of the ratios in their simplest form.

$(a)\quad 11:66$

$(b)\quad 6:3$

5. (a) Share 55 in the ratio 1:4.

(b) Share 30 in the ratio 1:2.

(c) Share 207 in the ratio 12:11.

6. Find the mean, median, mode and range of each data set:

$(a)\quad 1, 4, 5, 7, 1, 4, 4, 4$

$(b)\quad 7, 6, 3, 2, 6, 5, 1, 1$

$(c)\quad 3, 2, 4, 9, 1, 8, 9, 2$

7. Calculate the mean in each of the frequency tables below. Give your answer to 2 decimal places where appropriate.

x	Frequency
1	4
2	5
3	8
4	3
5	10

x	Frequency
1	4
2	10
3	10
4	4
5	2

Year 8 Sheet 7.2

1. Find:

(a) $3\frac{3}{8} + 1\frac{4}{9} =$

(b) $1\frac{4}{7} \times 2\frac{1}{8} =$

(c) $2\frac{1}{2} \div 3\frac{1}{6} =$

2. Expand and simplify:

(a) $-8(2x - 9)$

(b) $-1 + 7(6x - 1)$

(c) $-8x(9x - 1) - 3(-6x + 7)$

3. Find the next three terms in the sequence:

$$4, 12, 36, 108, 324 \ldots$$

and state how you found them.

4. Write each of the ratios in their simplest form.

(a) $21:3$

(b) $36:120$

5. (a) Share 143 in the ratio 4:7.

(b) Share 30 in the ratio 1:2.

(c) Share 117 in the ratio 4:5.

6. Find the mean, median, mode and range of each data set:

(a) $8, 6, 9, 8, 7, 2, 9, 2$

(b) $4, 7, 6, 6, 7, 2, 2, 8$

(c) $3, 3, 1, 6, 9, 1, 3, 6$

7. Calculate the mean in each of the frequency tables below. Give your answer to 2 decimal places where appropriate.

x	Frequency
1	3
2	6
3	10
4	3
5	8

x	Frequency
1	3
2	7
3	5
4	4
5	11

Year 8 Mid-Year Revision Sheet 1

1. Calculate leaving your answer as an improper fraction in its simplest form.

(a) $1\frac{3}{7}+2\frac{3}{10}=$ (b) $1\frac{1}{3}-2\frac{3}{11}=$

(c) $2\frac{3}{10}\times 1\frac{7}{9}=$ (d) $2\frac{1}{12}\div 2\frac{3}{8}=$

2. Use the formula $s=ut+\frac{1}{2}at^2$ to find s. Round your answer to the nearest whole number.

(a) $u=8, a=-1 \ \& \ t=4,$ (b) $u=-9.6, a=-4.5 \ \& \ t=7$

3. Expand and Simplify:

(a) $2(7x+3)=$ (b) $4-7(4x+2)=$

(c) $-9(2x+9)+4(x-6)=$ (d) $5x(5x+2)+3(3x+8)=$

4. Draw a sketch of a **trapezium** and show all its properties using symbols where appropriate.

5. (a) Write the ratio 49:42 in its simplest form.

(b) Bill and Ben are selling their gardening equipment for $\$45$. They divide the money on the ration $4:1$. How much do each of them get?

(c) Gill is making mi$x$ed fruit juice. She makes it by mi$x$ing orange juice, apple juice and pineapple juice in the ratio $3:4:3$ respectively. If she uses $48\ ml$ of orange juice, how much apple and pineapple juice does she need?

6. Calculate the mean in each of the frequency tables below. Give your answer to 3 significant figures:

x	Frequency
1	0
2	3
3	5
4	7
5	6

x	Frequency
1	1
2	5
3	5
4	8
5	1

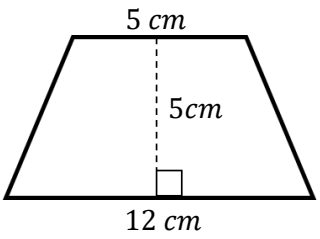
7. Solve:

(a) $8x-7=41$ (b) $-5x+18=-2x-2$

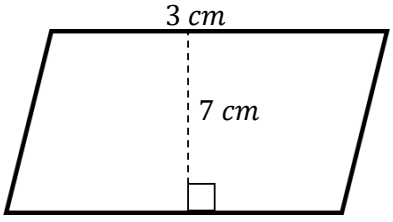
(c) $5(5x+7)=-2x-7$ (d) $5(-4x+6)=4(-x+7)$

8. Find the area of the trapezium and parallelogram.

(a)

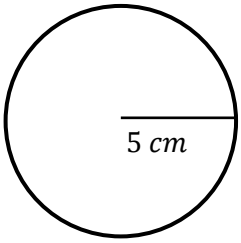


(b)

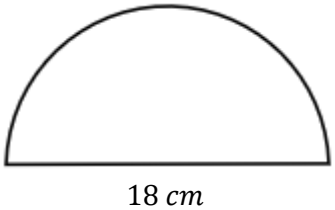


9. Find the perimeter and area of the circle and the semi−circle.
Take $\pi=3.14$ and leave your answer to 2 decimal places.

(a)



(b)



Year 8 Mid-Year Revision Sheet 2

1. Calculate leaving your answer as an improper fraction in its simplest form.

(a) $2\frac{7}{8}+1\frac{2}{5}=$ (b) $1\frac{10}{11}-3\frac{4}{9}=$

(c) $1\frac{10}{11}\times 3\frac{1}{2}=$ (d) $2\frac{3}{4}\div 3\frac{3}{5}=$

2. Use the formula $s=ut+\frac{1}{2}at^2$ to find s. Round your answer to the nearest whole number.

(a) $u=$ - $3, a=$ 5 & $t=9,$ (b) $u=$ $7.2, a=$ - 7.7 & $t=2$

3. Expand and Simplify:

(a) $7(6x+3)=$ (b) $5-1(5x-6)=$

(c) $4(5x+8)-9(4x-5)=$ (d) $-7x(2x+6)-2(2x-5)=$

4. Draw a sketch of a **kite** and show all its properties using symbols where appropriate.

5. (a) Write the ratio 27:36 in its simplest form.

(b) Bill and Ben are selling their gardening equipment for $\$144$. They divide the money on the ration $7:2$. How much do each of them get?

(c) Gill is making mi$x$ed fruit juice. She makes it by mi$x$ing orange juice, apple juice and pineapple juice in the ratio $3:2:2$ respectively. If she uses $48\ ml$ of orange juice, how much apple and pineapple juice does she need?

6. Calculate the mean in each of the frequency tables below. Give your answer to 3 significant figures:

x	Frequency
1	1
2	4
3	5
4	8
5	1

x	Frequency
1	0
2	4
3	5
4	8
5	3

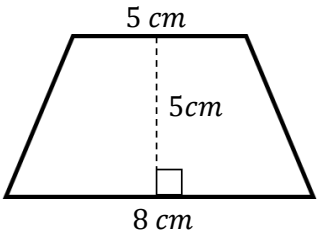
7. Solve:

(a) $7x+6=-8$ (b) $8x-15=-2x-14$

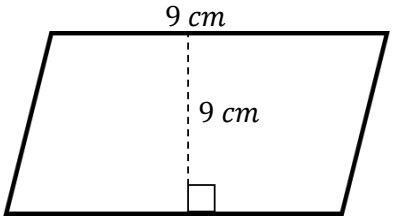
(c) $-3(-3x+7)=-2x+4$ (d) $-5(-3x-6)=-5(-5x+2)$

8. Find the area of the trapezium and parallelogram.

(a)

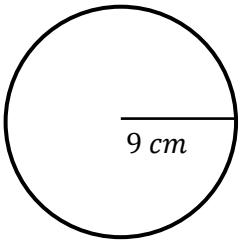


(b)

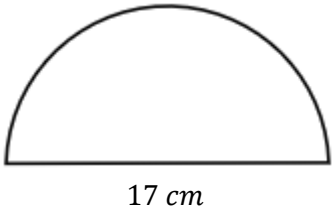


9. Find the perimeter and area of the circle and the semi−circle.
Take $\pi=3.14$ and leave your answer to 2 decimal places.

(a)



(b)



Year 8 Mid-Year Revision Sheet 3

1. Calculate leaving your answer as an improper fraction in its simplest form.

$(a)\quad 2\frac{3}{4}+3\frac{9}{11}=$ $(b)\quad 2\frac{6}{7}-3\frac{1}{3}=$

$(c)\quad 3\frac{3}{11}\times 3\frac{5}{6}=$ $(d)\quad 2\frac{1}{2}\div 2\frac{3}{4}=$

2. Use the formula $s=ut+\frac{1}{2}at^2$ to find s. Round your answer to the nearest whole number.

$(a)\quad u=\text{-}\,7, a=\text{-}\,2\ \&\ t=4,$ $(b)\quad u=\ 0.0, a=\ 8.3\ \&\ t=8$

3. Expand and Simplify:

$(a)\quad -5(5x+8)=$ $(b)\quad -2+7(5x-8)=$

$(c)\quad -3(5x+6)+5(5x-9)=$ $(d)\quad -4x(5x+8)-1(5x-7)=$

4. Draw a sketch of a **rhombus** and show all its properties using symbols where appropriate.

5. (a) Write the ratio 10:80 in its simplest form.

(b) Bill and Ben are selling their gardening equipment for $\$143$. They divide the money on the ration $2:9$. How much do each of them get?

(c) Gill is making mi$x$ed fruit juice. She makes it by mi$x$ing orange juice, apple juice and pineapple juice in the ratio $7:9:3$ respectively. If she uses $49\ ml$ of orange juice, how much apple and pineapple juice does she need?

6. Calculate the mean in each of the frequency tables below. Give your answer to 3 significant figures:

x	Frequency
1	1
2	5
3	4
4	7
5	3

x	Frequency
1	0
2	5
3	4
4	7
5	4

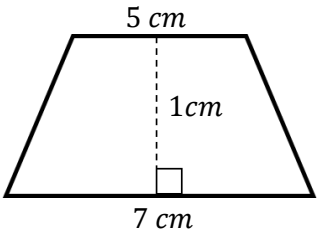
7. Solve:

$(a)\quad -7x+2=58$ $(b)\quad 2x+20=-3x-12$

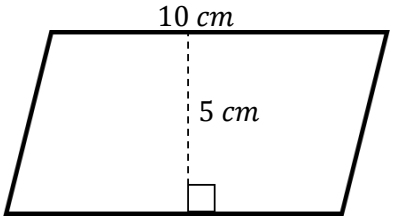
$(c)\quad 4(-x+8)=-3x+5$ $(d)\quad -3(-5x+7)=2(3x+2)$

8. Find the area of the trapezium and parallelogram.

(a)

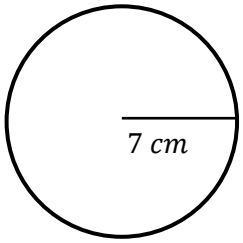


(b)

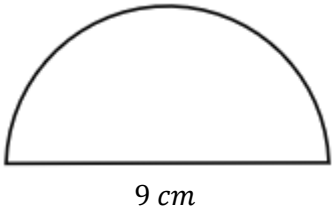


9. Find the perimeter and area of the circle and the semi−circle.
Take $\pi=3.14$ and leave your answer to 2 decimal places.

(a)



(b)



Year 8 Mid-Year Revision Sheet 4

1. Calculate leaving your answer as an improper fraction in its simplest form.

$(a)\quad 2\frac{1}{4}+1\frac{7}{12}=$ $(b)\quad 1\frac{5}{8}-3\frac{1}{11}=$

$(c)\quad 1\frac{1}{4}\times 1\frac{2}{5}=$ $(d)\quad 3\frac{1}{4}\div 2\frac{5}{6}=$

2. Use the formula $s=ut+\frac{1}{2}at^2$ to find s. Round your answer to the nearest whole number.

$(a)\quad u=\text{-}\,7, a=\ 3\ \&\ t=2,$ $(b)\quad u=\ 7.4, a=\ 6.5\ \&\ t=6$

3. Expand and Simplify:

$(a)\quad 2(2x+7)=$ $(b)\quad 9-1(7x-4)=$

$(c)\quad 4(x-2)+9(2x-3)=$ $(d)\quad -6x(5x-9)-9(x+8)=$

4. Draw a sketch of a **rhombus** and show all its properties using symbols where appropriate.

5. (a) Write the ratio 42:12 in its simplest form.

(b) Bill and Ben are selling their gardening equipment for $\$143$. They divide the money on the ration $8:3$. How much do each of them get?

(c) Gill is making mi*x*ed fruit juice. She makes it by mi*x*ing orange juice, apple juice and pineapple juice in the ratio $4:2:9$ respectively. If she uses $24\ ml$ of orange juice, how much apple and pineapple juice does she need?

6. Calculate the mean in each of the frequency tables below. Give your answer to 3 significant figures:

x	Frequency
1	1
2	5
3	4
4	8
5	1

x	Frequency
1	1
2	3
3	4
4	8
5	4

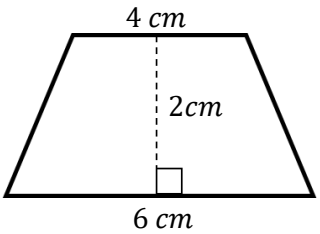
7. Solve:

$(a)\quad -9x-5=-14$ $(b)\quad -7x-6=4x+9$

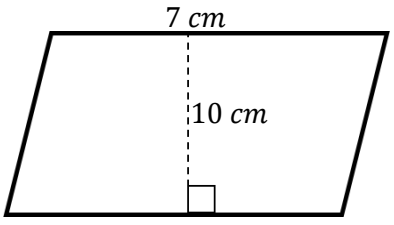
$(c)\quad -5(-2x-4)=3x-4$ $(d)\quad -2(-3x+1)=2(-5x+9)$

8. Find the area of the trapezium and parallelogram.

(a)

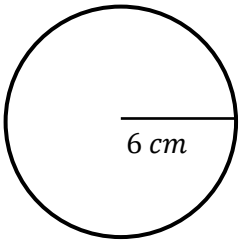


(b)

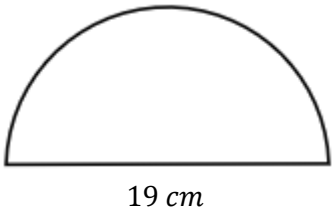


9. Find the perimeter and area of the circle and the semi−circle.
Take $\pi=3.14$ and leave your answer to 2 decimal places.

(a)



(b)



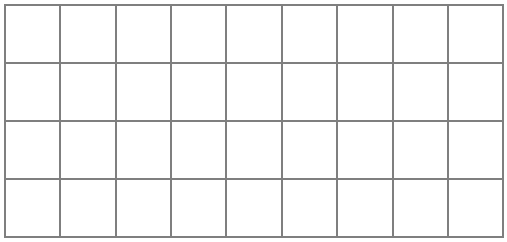
Year 8 Answer Sheet 1.1

1. Calculate:

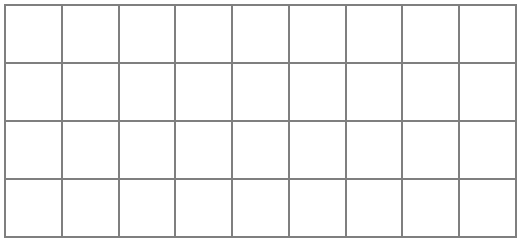
(a) $9 \times 9 =$	81	(b) $10 \times 8 =$	80	(c) $8 \times 12 =$	96
(d) $10 \times 12 =$	120	(e) $-3 + 7 =$	4	(f) $-7 - (-7) =$	0
(g) $-7 \times (11) =$	-77	(h) $-9 \div (-3) =$	3	(i) $4 - (-5) =$	9

2. Calculate:

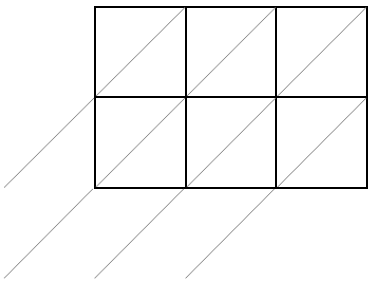
(a) $32.73 + 84.55 = 117.28$



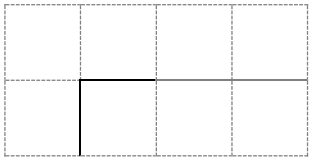
(b) $88.1 - 8.81 = 79.29$



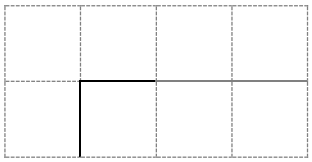
(c) $85 \times 154 = 13090$



(d) $189 \div 3 = 63$



(e) $728 \div 7 = 104$



3. Simplify:

(a) $\frac{36}{44} = \frac{9}{11}$

(b) $\frac{70}{420} = \frac{2}{12}$

4. Write each improper fraction as a mixed number.

(a) $\frac{47}{5} = 9\frac{2}{5}$

(b) $\frac{27}{7} = 3\frac{6}{7}$

5. Write each mixed number as an improper fraction.

(a) $9\frac{11}{12} = \frac{119}{12}$

(b) $8\frac{1}{2} = \frac{17}{2}$

Year 8 Answer Sheet 2.1

1. Round to the nearest whole number:

(a) $8.011 \approx$ 8 (b) $54.893 \approx$ 55 (c) $126.250 \approx$ 126

2. Round to one decimal place:

(a) $8.011 \approx$ 8.0 (b) $54.893 \approx$ 54.9 (c) $126.250 \approx$ 126.3

3. Calculate:

(a) $7^2 =$ 49 (b) $\sqrt{196} =$ 14 (c) $4^3 =$ 64 (d) $\sqrt[3]{8}$ 2

4. Simplify:

(a) $-9x - 3y - 5x + 3x = -11x - 3y$ (b) $4x^2 + 2x - 5x^2 - 3x = -1x^2 - 1x$

5. Calculate:

(a) $-2 \times (-2) + (-3) = 1$ (b) $9 \times 5 + 8 \times 5 = 85$

6. Place the fractions below in ascending order

$\frac{17}{32}, \frac{7}{8}, \frac{1}{2}, \frac{3}{4}, \frac{15}{16} = \frac{1}{2}, \frac{17}{32}, \frac{3}{4}, \frac{7}{8}, \frac{15}{16}$

7. Calculate each percentage change giving your answer to 1 decimal place.

(a) Increase 455 by 60% = 728.0 (b) Decrease 101 by 63% = 37.4

Year 8 Answer Sheet 3.1

1. Check it with your parents and if you are not sure bring it to your maths teacher.

2. 47

3. $51°$

4. A line which intersects the circumference at one point

5a. $x = 49°, \quad y = 65.5°, \quad z = 65.5°$

5b. $w = 72°, \quad x = 78°, \quad y = 72°, \quad z = 30°$

6. Heptagon

7a. $A = 22\ cm^2$

7b. $A = 72\ cm^2$

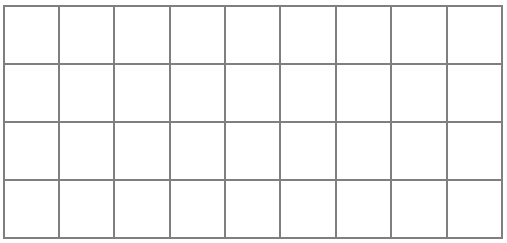
Year 8 Answer Sheet 1.2

1. Calculate:

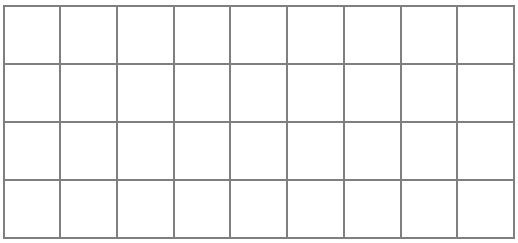
(a)	$10 \times 8 =$	80	(b)	$7 \times 6 =$	42	(c)	$12 \times 3 =$	36
(d)	$6 \times 5 =$	30	(e)	$-8 + 0 =$	-8	(f)	$2 + (-7) =$	-5
(g)	$-8 \times (-2) =$	16	(h)	$-14 \div (-2) =$	7	(i)	$-4 - (-7) =$	3

2. Calculate:

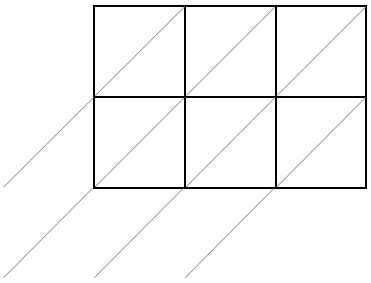
(a) $46.07 + 9.58 = 55.65$



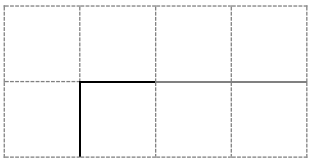
(b) $86.3 - 58.34 = 27.96$



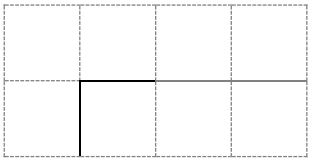
(c) $24 \times 384 = 9216$



(d) $304 \div 4 = 76$



(e) $201 \div 3 = 67$



3. Simplify:

$(a)\quad \frac{44}{48} = \frac{11}{12}$	$(b)\quad \frac{96}{144} = \frac{4}{6}$

4.	Write each improper fraction as a mixed number.
$(a)\quad \frac{71}{5} = 14\frac{1}{5}$	$(b)\quad \frac{93}{7} = 13\frac{2}{7}$

5.	Write each mixed number as an improper fraction.
$(a)\quad 9\frac{1}{4} = \frac{37}{4}$	$(b)\quad 1\frac{11}{12} = \frac{23}{12}$

Year 8 Answer Sheet 2.2

1. Round to the nearest whole number:

$(a)\quad 3.696 \approx 4$ $(b)\quad 40.124 \approx 40$ $(c)\quad 958.791 \approx 959$

2. Round to one decimal place:

$(a)\quad 3.696 \approx 3.7$ $(b)\quad 40.124 \approx 40.1$ $(c)\quad 958.791 \approx 958.8$

3. Calculate:

$(a)\quad 12^2 = 144$ $(b)\quad \sqrt{169} = 13$ $(c)\quad 5^3 = 125$ $(d)\quad \sqrt[3]{8}\ \ 2$

4. Simplify:

$(a)\quad -8y + 7x - 5y + y = 7x - 12y$ $(b)\quad -1x^2 + 9x + 9x^2 + 2x = +11x^2 + 11x$

5. Calculate:

$(a)\quad -1 \times 3 + 7 = 4$ $(b)\quad 3 \times (-9) + (-3) \times 9 = -54$

6. Place the fractions below in descending order

$$\frac{17}{32}, \quad \frac{3}{8}, \quad \frac{1}{2}, \quad \frac{1}{4}, \quad \frac{7}{16} = \frac{17}{32}, \quad \frac{1}{2}, \quad \frac{7}{16}, \quad \frac{3}{8}, \quad \frac{1}{4}$$

7. Calculate each percentage change giving your answer to 1 decimal place.

(a) Increase 492 by $17\% = 575.6$

(b) Decrease 128 by $45\% = 70.4$

Year 8 Answer Sheet 3.2

1. Check it with your parents and if you are not sure bring it to your maths teacher.

2. -40

3. $64°$

4. The area enclosed by a chord and its arc

5a. $x = 55°, \quad y = 62.5°, \quad z = 62.5°$

5b. $w = 79°, \quad x = 53°, \quad y = 79°, \quad z = 48°$

6. Quadrilateral

7a. $A = 12\ cm^2$

7b. $A = 25\ cm^2$

Year 8 Answer Sheet 4.1

1. $-\frac{1}{2}$	**2.** $-\frac{1}{5}$
3. $\frac{7}{18}$	**4.** $\frac{29}{28}$
5. $\frac{16}{45}$	**6.** $\frac{7}{2}$
7. $\frac{39}{32}$	**8.** 6
9. $-\frac{43}{20}$	**10.** $\frac{117}{50}$

Year 8 Answer Sheet 4.2

1.	$\frac{20}{9}$	**2.**	$\frac{139}{30}$
3.	$\frac{96}{11}$	**4.**	$\frac{151}{24}$
5.	$\frac{338}{55}$	**6.**	$\frac{112}{15}$
7.	$\frac{63}{40}$	**8.**	$\frac{348}{77}$
9.	$\frac{141}{28}$	**10.**	$\frac{67}{55}$

Year 8 Answer Sheet 5.1

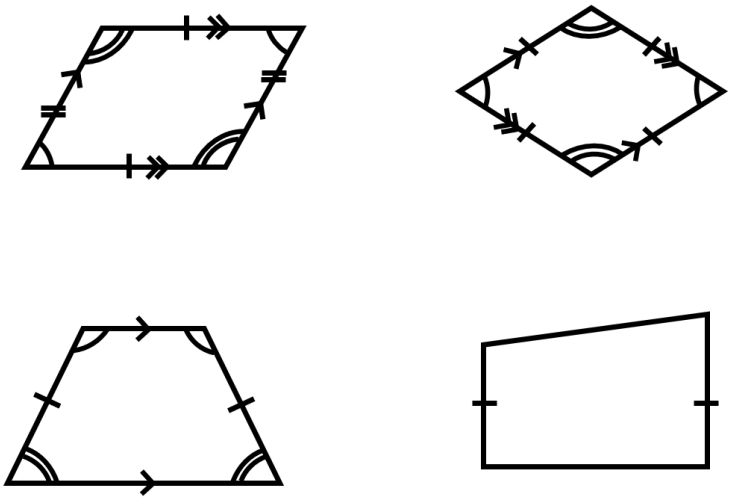
1.	$\frac{19}{88}$	**2.**	$\frac{121}{54}$
3.	$\frac{370}{363}$	**4.**	$\frac{63}{80}$
5.	$\frac{45}{28}$	**6.**	$\frac{80}{33}$
7.	$2x + 8$	**8.**	$-15x - 27$
9.	$-16x + 12$	**10.**	$35x + 32$
11.	$-40x + 40$	**12.**	$-72x - 16$
13.	$35x^2 - 8x + 18$	**14.**	$56x^2 - 22x - 18$
15.	$-81x^2 + 36x - 81$		

Year 8 Answer Sheet 5.2

1.	$\frac{43}{15}$	**2.**	$\frac{33}{14}$
3.	$\frac{7}{4}$	**4.**	$\frac{35}{33}$
5.	$\frac{47}{24}$	**6.**	$\frac{65}{27}$
7.	$-3x - 9$	**8.**	$-6x + 3$

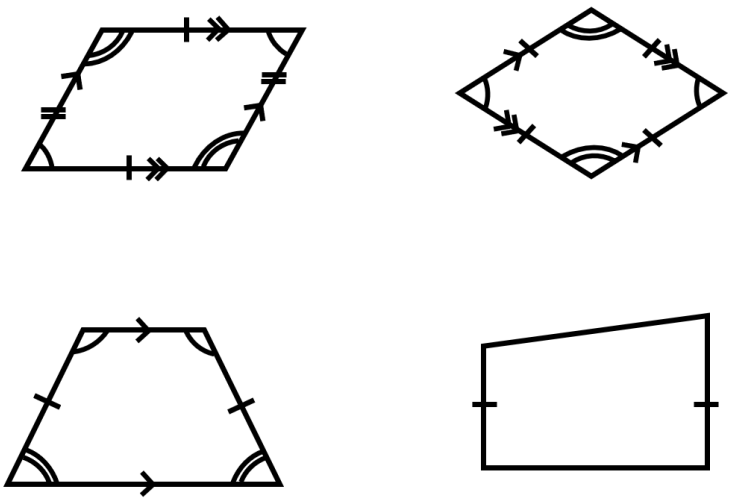
9.	$16x - 20$	**10.**	$16x + 18$
11.	$-63x - 79$	**12.**	$2x + 1$
13.	$48x^2 - 34x + 49$	**14.**	$9x^2 - 46x - 28$
15.	$-42x^2 + 42x - 7$		

Year 8 Answer Sheet 6.1

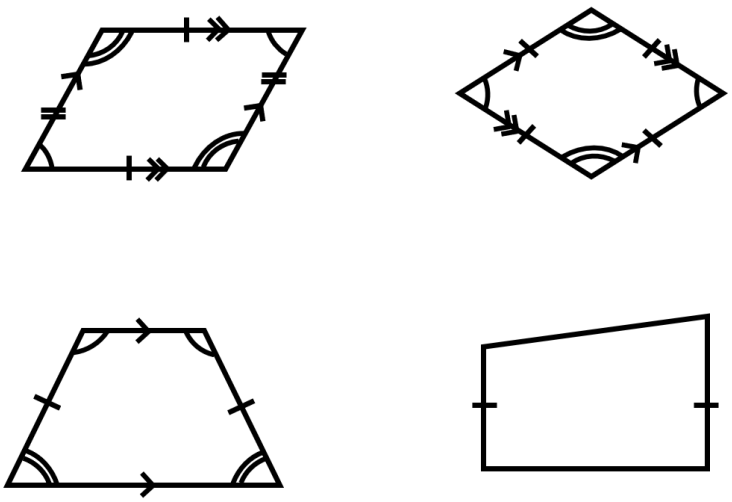
1.	$-\frac{29}{28}$	**2.**	$\frac{430}{33}$
3.	$\frac{11}{16}$	**4.**	$10x + 10$
5.	$4x - 10$	**6.**	$24x^2 + 11x + 2$
7.	$160, 320, 640 \ldots$ Multiply by 2		
8.	$-38, -62, -100 \ldots$ The sum of the previous two terms. Fibonacci sequence.		
9.	$45, 54, 63 \ldots$ Multiply by 9, subtract 9		
10.			

Year 8 Answer Sheet 6.2

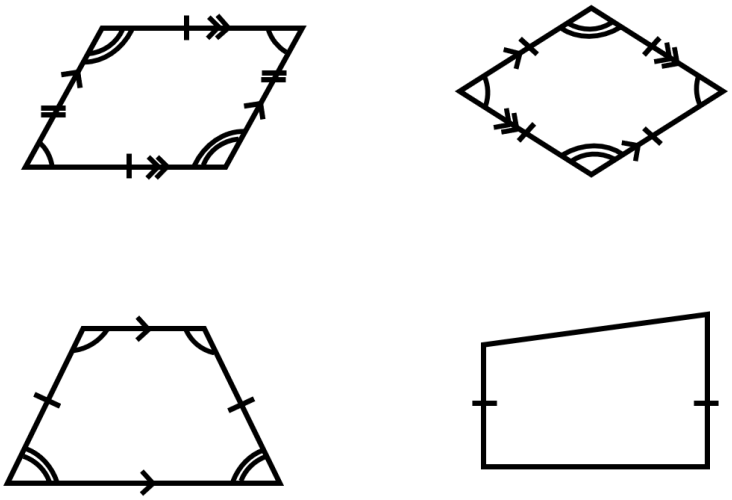
1.	$\frac{19}{36}$	**2.**	$\frac{230}{21}$
3.	$\frac{16}{15}$	**4.**	$-24x - 28$
5.	$5x + 3$	**6.**	$18x^2 + 18x + 24$
7.	$-8, 8, -8 \ldots$ Multiply by -1		

8.	$23, 29, 35 \ldots$ Multiply by 6, subtract 13
9.	$-50, -58, -66 \ldots$ Multiply by -8, subtract 2
10.	

Year 8 Answer Sheet 6.3

1.	$\frac{17}{21}$	**2.**	$\frac{119}{33}$
3.	$\frac{29}{14}$	**4.**	$-8x + 16$
5.	$48x + 34$	**6.**	$-24x^2 + 60x - 72$
7.	$-972, 2916, -8748 \ldots$ Multiply by -3		
8.	$-7, -10, -13 \ldots$ Multiply by -3, add 11		
9.	$1944, 5832, 17496 \ldots$ Multiply by 3		
10.			

Year 8 Answer Sheet 6.4

1.	$\frac{25}{18}$	**2.**	$\frac{37}{4}$
3.	$\frac{7}{6}$	**4.**	$8x - 32$
5.	$-27x + 41$	**6.**	$-30x^2 - 76x + 25$
7.	$-96, 192, -384 \ldots$ Multiply by -2		
8.	$16, 18, 20 \ldots$ Multiply by 2, add 4		
9.	$32, 52, 84 \ldots$ The sum of the previous two terms. Fibonacci sequence.		
10.			

Year 8 Answer Sheet 7.1

1.
(a) $-\frac{1}{12}$
(b) $\frac{40}{11}$
(c) $\frac{64}{81}$

2.
(a) $36x + 54$
(b) $5x + 14$
(c) $8x^2 + 66x - 72$

3. -22, -34, -56... The sum of the previous two terms. Fibonacci sequence.

4.
(a) $1:6$
(b) $2:1$

3.
(a) $11:44$
(b) $10:20$
(c) $108:99$

6. (a) Mean$= 3.75$, median$=$ 4, mode$= 4$, range $= 6$

6. (b) Mean$= 3.875$, median$= 4$, mode$=$ No mode, range $= 6$

6. (c) Mean$= 4.75$, median$= 3.5$, mode$=$ No mode, range $= 8$

7.
(a) 3.33
(b) 2.67

Year 8 Answer Sheet 7.2

1. (a) $\frac{347}{72}$
(b) $\frac{187}{56}$
(c) $\frac{15}{19}$

2. (a) $-16x + 72$
(b) $42x - 8$
(c) $-72x^2 + 26x - 21$

3. 972, 2916, 8748...
Multiply by 3

4. (a) $7:1$
(b) $3:10$

3. (a) $52:91$
(b) $10:20$
(c) $52:65$

6. $(\boldsymbol{a})$ Mean$= 6.375$, median$= 7.5$, mode$=$ No mode, range $= 7$

6. (b) Mean$= 5.25$, median$=$ 6, mode$=$ No mode, range $= 6$

6. (c) Mean$= 4$, median$=$ 3, mode$= 3$, range $=$ 8

7. (a) 3.23
(b) 3.43

Year 8 Mid-Year Revision Sheet Answers 1

1. (a) $\frac{261}{70}$
(b) $\frac{-31}{33}$
(c) $\frac{184}{45}$
(d) $\frac{50}{57}$

2. (a) $s =$ -16
(b) $s =$ -67

3. (a) $14x + 6$
(b) $-28x - 10$
(c) $-28x - 10$
(d) $25x^2 + 19x + 24$

4. (a) See quadrilaterals sheet

5. (a) $49:42$ (b) Bill gets \$36 and Ben gets \$9 (c) 64 ml of apple and 48 ml of pineapple

6. (a) 3.80
(b) 3.15

7. (a) $x = 6$
(b) $x = \frac{20}{3}$
(c) $x =$ −14/9
(d) $x =$ 1/8

8. (a) $Area = 43\ cm^2$
(b) $Area = 21cm^2$

9. (a) $C = 31.40\ cm$, $A = 78.50\ cm^2$
(b) $P = 46.26\ cm$, $A = 127.17\ cm^2$

Year 8 Mid-Year Revision Sheet Answers 2

1. (a) $\frac{171}{40}$
(b) $\frac{-152}{99}$
(c) $\frac{147}{22}$
(d) $\frac{55}{72}$

2. (a) $s = 188$
(b) $s =$ -71

3. (a) $42x + 21$
(b) $-5x + 11$

(c) $-5x + 11$ (d) $-14x^2 - 46x + 10$

4. (a) See quadrilaterals sheet

5. (a) $27:36$ (b) Bill gets \$112 and Ben gets \$32 (c) 32 ml of apple and 32 ml of pineapple

6. (a) 3.20 (b) 3.50

7. (a) $x = -2$ (b) $x = \frac{1}{10}$

(c) $x = 25/11$ (d) $x = 4$

8. (a) $Area = 32.5\ cm^2$ (b) $Area = 81cm^2$

9. (a) $C = 56.52\ cm,$ $A = 254.34\ cm^2$ (b) $P = 43.69\ cm,$ $A = 113.43\ cm^2$

Year 8 Mid-Year Revision Sheet Answers 3

1. (a) $\frac{289}{44}$ (b) $\frac{-10}{21}$

(c) $\frac{138}{11}$ (d) $\frac{10}{11}$

2. (a) $s = -2$ (b) $s = 266$

3. (a) $-25x - 40$ (b) $35x - 58$

(c) $35x - 58$ (d) $-20x^2 - 37x + 7$

4. (a) See quadrilaterals sheet

5. (a) $10:80$ (b) Bill gets \$26 and Ben gets \$117 (c) 63 ml of apple and 21 ml of pineapple

6. (a) 3.30 (b) 3.50

7. (a) $x = -8$ (b) $x = -\frac{32}{5}$

(c) $x = 27$ (d) $x = 25/9$

8. (a) $Area = 6\ cm^2$ (b) $Area = 50cm^2$

9. (a) $C = 43.96\ cm,$ $A = 153.86\ cm^2$ (b) $P = 23.13\ cm,$ $A = 31.79\ cm^2$

Year 8 Mid-Year Revision Sheet Answers 4

1. (a) $\frac{23}{6}$ (b) $\frac{-129}{88}$

(c) $\frac{7}{4}$ (d) $\frac{39}{34}$

2. (a) $s = -15$ (b) $s = 165$

3. (a) $4x + 14$ (b) $-7x + 13$

(c) $-7x + 13$ (d) $-30x^2 + 45x - 72$

4. (a) See quadrilaterals sheet

5. (a) $42:12$ (b) Bill gets $\$104$ and Ben gets $\$39$ (c) $12\ ml$ of apple and $54\ ml$ of pineapple

6. (a) 3.15 (b) 3.55

7. (a) $x = 1$ (b) $x = -\frac{15}{11}$

(c) $x = -24/7$ (d) $x = 5/4$

8. (a) $Area = 10\ cm^2$ (b) $Area = 70cm^2$

9. (a) $C = 37.68\ cm,$ $A = 113.04\ cm^2$ (b) $P = 48.83\ cm,$ $A = 141.69\ cm^2$